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BIRD LIFE IN INDIA

By
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WITH SIXTY-TWO BLACK AND WHITE PLATES AND ONE FRONTISPIECE

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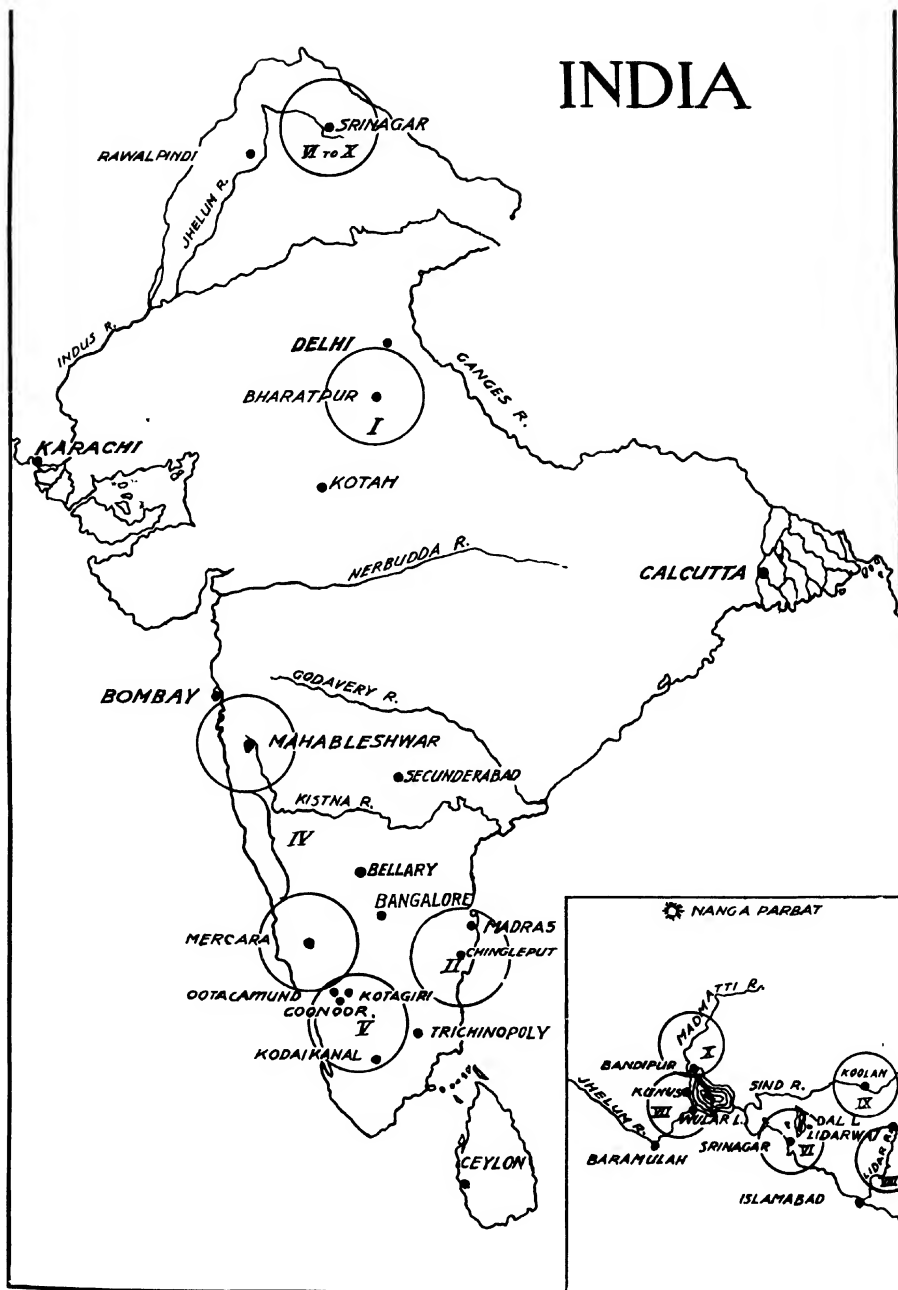
PREFACE

THE lack of any popular work revealing the methods employed by the bird-photographer has led me to bring out this book in the hope that to a certain extent this gap may be filled. When I took up the subject some twelve years ago, I at once found myself at a great disadvantage through not knowing how to make a start on the proper lines, and consequently, as I have had to learn gradually by practical experience, those twelve years have by no means been used to the fullest advantage. If therefore my experiences prove a help to the beginner in bird-photography, I shall feel that this book has achieved its main object in filling the gap which still seems to exist in spite of the great number of nature books which have lately appeared.

A great part of the subject matter of the chapters which follow, together with some of the illustrations, is a recasting of articles which have appeared periodically in the *Journal of the Bombay Natural History Society*, so I am indebted to the Society in question, not only for their financial aid in making publication possible, but also for permitting me to reproduce the articles in their present form.

The nomenclature of Indian Birds is unfortunately still in a state of change, due of course to the belated adoption of the binomial system. I have however used the nomenclature of the bird volumes of the second Edition of the *Fauna of British India* Series.

The sketch map which follows bears the names of places mentioned in the text, and where desirable, to transport the reader at the beginning of a chapter to the right part of India, each locality is marked by a circle containing the number of the chapter concerned.



The Circles indicate areas of which the author writes and the roman numerals the chapters concerned.

CHAPTER I

MY RAJPUTANA GARDEN

In the plains of India the lot of the ornithologist on many occasions is far from being all that can be desired. From April until the end of September, the months of greatest activity amongst the resident feathered population, the discomforts of first the scorching heat of the early summer, next the humid and sultry days of the rains with their attendant and ever-changing hordes of noxious insects, and lastly the final burst of heat before the cool weather sets in, are at times well nigh unbearable.

By those who have never braved the inside of a small hiding tent when the shade temperature is in the neighbourhood of 110° , or have never had occasion to spend hours at a time in a small open boat on a shadeless expanse of water, the attendant discomforts cannot be realized. For these reasons, and the fact that I have only been able to devote myself with any sort of continuity to this work during the all-too-short and far-between periods of leave obtained during the late unsettled years, I fear my efforts with regard to the birds of the plains and the hills of continental India are most incomplete, even for the comparatively short time I have spent in the country.

However, though my photographic records are somewhat scant, I have indeed had the fullest value out of my exploits, and on going through the notes jotted down for the subject-matter of this chapter, I find that, rather than impressions of the general habits of the birds dealt with, they are largely records of abnormalities, curious nesting-sites, etc., and experiences at times annoying and unpleasant but all the same amusing when one

looks back on them. This chapter, therefore, might more aptly have been headed "Abnormalities of Indian Bird-Life" or "The Foolishness of being an ardent Ornithologist".

I first conceived the idea of making bird photography my hobby when stationed in an Indian State in Rajputana with rather more leisure than one now has in the post-war army. Here Peafowl were an absolute nuisance and, being sacred, one was not allowed to impress upon them with a charge of shot that they would be the more welcome if only seen and not heard, with the result that they were so tame that they used even to come into the compound, and if anything disturbed them during the night, one would be rudely awakened by piercing yells from their roosting places in the large trees around the house.

I discovered one morning that a Peahen had a nest in some long grass just the other side of a privet hedge and not more than twenty yards from the bungalow, so I sallied forth with all my paraphernalia to photograph it, and having set up the camera, stepped behind it to start focussing. Unfortunately I put my foot in the very middle of a bees' nest, nasty little grey fellows which stuck to one like leeches. The camera flew in one direction and I in a bee-line in the other. It really must have been a bee-line as they too followed it, and incidentally me, in most unpleasant numbers. The remainder of that day I was somewhat unhappy and only ventured forth to collect my apparatus after sundown. A couple of days later I summoned up courage to try again, this time approaching the nest from a different direction, but I was disgusted to find nothing but some broken egg-shells.

Curiously enough, one of the first nests I found in Bharatpur, the said Indian State, was on the roof of the bungalow and was that of a Brown Rock-Chat (*Cercomela fusca*) whose confiding ways and sweet subdued little song soon attracted my attention.

merely stood motionless and glared at one another, till at last the intruder made off, thinking discretion to be the better part of valour. All wild things appear to me to be imbued with this instinct which tells them never to fight if it can possibly be avoided. The reason for this course is obvious. A bird or animal injured in any way stands far less chance than its whole brethren in the appalling struggle for existence which takes place in nature, and which is apt to result solely in the survival of the physically fit.

I regret I paid little attention to birds during my few months at Secunderabad, but amongst other things I took a number of nests of the Dusky Crag-Martin (*Krimnochelidon concolor*), and a couple of the Singing Bush-Lark (*Mirafra cantillans cantillans*).

A mystery, worthy of the great Sherlock Holmes himself, surrounds the one and only Nukhta's nest I have ever found. It was placed in a hollow in the trunk of a fairly large *nim* tree about ten feet from the ground. When the site was originally chosen the tree would be near water, as floods early in July had inundated a great part of the State, the mainroad, within fifty yards of which this tree stood, being under some four feet of water for many days. However, when I found this nest on the 25th October, a rather late date by the way, the water had receded and the nearest wet spot was some marshy ground with a few reed-covered stagnant pools roughly quarter of a mile away. On this date the nest contained five eggs and two newly hatched ducklings. And here is where the mystery comes in—one of the chicks was minus its head, which important piece of its anatomy was nowhere to be seen. I am sure it had not been hatched long, and the duck was on the nest and only flew out on my tapping the ree with a stick. I thought this was rather queer and removed the corpse, but next day my mystification was increased still

further by finding but three eggs and two dead ducklings, both treated in exactly the same manner. The heads had completely disappeared, apparently having been quite neatly bitten off. The anguished mother was again in evidence and flew two or three times round the tree while I was deliberating over this extraordinary occurrence. I did not get an opportunity of visiting the nest again for some days, when I found it obviously deserted, smelling foully, and containing two bad eggs and the decaying body of one headless youngster. A Civet Cat strikes one as being the most likely murderer, but why take away the heads, and would not a civet cat, mongoose or any other animal have disposed of the ducklings and sucked all the eggs straight away, and do mongooses climb trees, by the way? Surely rats could not have been responsible and one would expect a Nukhta to be able to protect its hearth and home against such lesser vermin. Perhaps the parents had turned cannibal!

Spotbill (*Anas pæcilorhyncha pæcilorhyncha*), another resident Indian Duck, I also saw not far from my bungalow in Bharatpur, but I never had the good fortune to find a nest there. In fact, the only eggs of this species I have seen outside a museum were a clutch of 11, which were collected by an old native shikari from a nest in a patch of reeds at the edge of a tank outside Bellary in the Madras Presidency. I was walking round the tank in the hopes of getting a snipe or two and met the old man as he emerged with his spoils. This pair of birds was also breeding somewhat late as the date was the 2nd of November.

The Ashy-crowned Finch-Lark's nest shown here was actually taken in December, so I hardly know whether one would call it an exceptionally late effort or a very early one, as the breeding season is usually from about February to August or September. Jerdon and others of his time called this bird the



SMALLER WHITE SCAVENGING RAVEN
(*Ne. ph. p. fuscopictus longimanus*)



DUSKY HORNE D OWL
(*Bubo cor. mandes coromand*)



INDIAN WHITE BACKED VULTURE



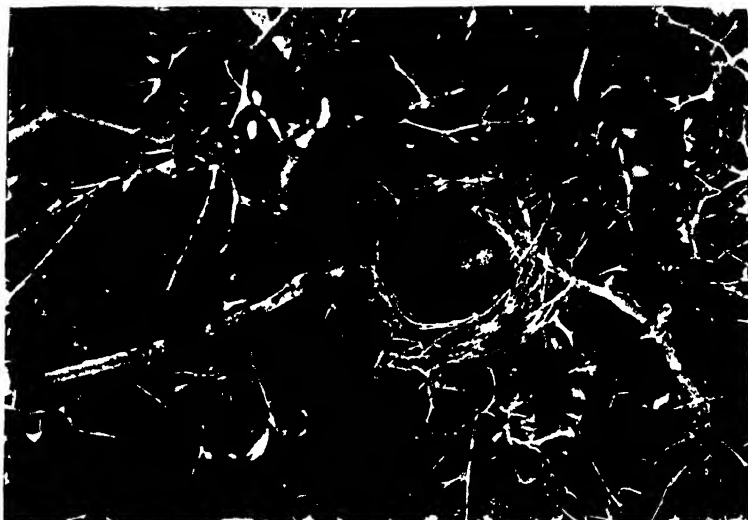
BLACK VULTURE (*Sarcops calvus*),
INDIAN GRIFON VULTURE (*Gyps fulvus fulvus*)
AND INDIAN WHITE BACKED VULTURES (*Pseudogyps bengalensis*)



INDIAN TAILOR BIRD
(*Orthotomus sutureatus*)



BLACK DRONGO
(*Dicranus maculatus*)



WHITE-EARED BULBUL
(*Molpastes leucogenys leucotis*).



CENTRAL INDIAN RED-VENTED BULBUL
(*Molpastes ater pallidus*).

behind the house, in front of which was a small lawn with a *nim* tree in its centre, I always had my tea out of doors, and it was not long before I collected one or two acquaintances, the first to become thoroughly tame being a pair of Bulbuls of the former species, which soon took to descending on to the tea-table to peck at anything and everything which looked eatable. A White-eared Bulbul used to hang about the tree, but would not actually join in the repast, except when I left the table and went into the verandah. Though I did everything I could to gain their complete confidence, I never succeeded in getting any of them actually to feed out of my hand, and had to console myself by ministering to the wants of a bold little tree-rat, who used to run up my leg to snatch bits of cake off my knee.

These two kinds of Bulbul were excessively common, and one was always coming across their nests in almost every description of bush or sapling, the small prickly bushes at the back of the bungalow being especially favoured by the White-eared variety, which in Bharatpur very much outnumbered the Red-vented species. In the construction of their respective nests there was nothing to choose, both being very loosely made thin-walled cups of bents, in comparison to which the nests of the Southern Red-whiskered Bulbuls in the illustrations here are most solid structures. It really does seem extraordinary that these cheery little birds should be so common when one thinks of the astonishing number of nests which are destroyed, many through the birds' own stupidity I'm sorry to say. I soon discovered that if I found a particularly interesting nest, even to put off photographing it until next day was exceedingly risky, the only safe thing to do, if I happened to be without my camera, being to return for it then and there.

Before long my tea-parties were joined by a band of noisy seven-sisters—Large Grey Babblers (*Argya malcolmi*), and their

advent might be termed the beginning of the end, as quarrelling at once became the order of the day between these people and the tree-rat family, which resulted in the complete discomfiture of the cheerful little Bulbuls, who disagreed strongly with such unseemly behaviour.

Besides this Babbler, the Common Babbler (*Argya caudata caudata*) also frequented the compound, and in a thick tangle of creeper-like growth enveloping a piece of the fence bordering the railway line, I came across a compactly built nest, made chiefly of the thinner strands of the material in which it was placed, and containing three eggs of the usual very glossy texture and deep spotless blue colouration.

To expound fully on every description of bird which was noted in the compound would fill a volume, but even a bare list of those others not yet mentioned, which I noted as of frequent occurrence during the whole or a large part of the year, is of decided interest, including as it does such widely divergent forms as Quails and Partridges (*the Black and the Grey*); Ibis, Nukhtas, Spotbills, Sandpipers and Stilts, Paddy-birds and Night Herons during the rains and resulting floods; Paroquets, Hornbills, Treepies, Bee-eaters and Flycatchers (*the Paradise Flycatcher and the White-browed Fantail*); Rosy-backed Starlings and Mynas of varied species; Sunbirds, Barbets, and Golden-backed Woodpeckers; Crow-Pheasants, Koils, Crows, Shrikes and Kingcrows; Munias, Weaver-Birds and Wren-Warblers; Stone-Chats, Finch-Larks, Pipits, Hoopoes, Rollers, Doves and Blue Rock-Pigeons; and probably many others which at the moment I do not recall; and, of course, Kites, Scavenger Vultures, an occasional White-backed Vulture, and, on a couple of occasions at least, a King Vulture.

I don't suppose for an instant that this extraordinary variety of species could have been met with in any other garden in



LITTLE BROWN DOVE
(*Streptopelia senegalensis cambayensis*).



NUKHA OR COMB-DUCK
(*Sarkidonnis melanotos*).

dropped to the floor was never retrieved, and I am sure I am correct in saying that those asinine birds dropped enough twigs in trying to balance them in impossible places to build at least four of the nest which was eventually the outcome of their unnecessarily hard labours. This and the Little Brown Dove (*Streptopelia senegalensis cambayensis*) were the two species common to Bharatpur, and they were excessively common too. I don't think I ever saw the Spotted Dove (*S. chinensis suratensis*) there, though it seemed numerous enough a little further south.

The Indian Crimson-breasted Barbet (*Xantholæma hæmacephala lutea*) bores a hole about the size of a half-crown in the trunk, or a stoutish branch, of any tree up to about a foot in diameter. Near the extremity of a broken branch or of one that has been sawn off and has commenced to decay is perhaps the most favoured spot. It is generally on the under side too, that is if the branch slopes at all. On one or two occasions I have noticed holes on the under side of perfectly horizontal boughs.

I once watched one of these birds excavating its abode. The spot chosen being only about ten feet from my bedroom window, I was able to lie on my bed and watch it at ease. When I first noticed it, the hole was about half an inch deep, so I could see that the bird worked with the bill slightly open, and that after every few taps it would jerk the chip or chips thus gouged out over its left shoulder. It worked most intermittently, sometimes only for half a minute or so at a time, and often with intervals of some hours in between. Nevertheless, in three days only the latter half of its body remained in sight and it had commenced to turn the cavity downwards. The branch, incidentally, was perfectly healthy and was that of a *nim* tree. The manner in which this quaint little bird arrives at its full-blown 'song' always amuses me. It apparently needs to work itself up to the

necessary pitch of excitement and usually starts with a very subdued *wuk* which steadily increases in volume, at the same time changing slightly in tone, until the rounder and not unpleasant even *tonk* is attained, and thereafter monotonously reiterated.

The nesting of the Brown-backed Indian Robins (*Saxicoloides fulicata cambaiensis*) has nothing of particular interest about it, excepting perhaps that they have the same habit of choosing strange sites as has the English Robin. One nest I found was in an old ghurra which had been thrown into a bush, and another in a battered kerosine oil tin lying in a patch of weed. Those I found in my Bharatpur garden were two in cavities in the railway embankment, one in the roots of a low prickly bush, and a couple more in holes in the back wall of the stables.

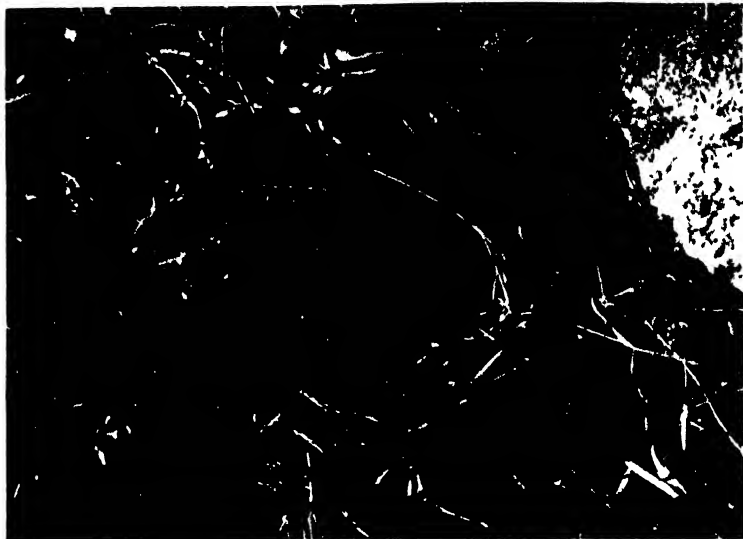
The Indian Purple Sunbird (*Leptocoma asiatica asiatica*) is a highly interesting personage as its nest is such a well thought-out structure. It is, of course, known to every dweller in this country on account of its great predilection for flowers and gardens, its unbounded energy, sharp call notes, and habit of ceaselessly flicking the wings, as it turns and twists about the flower stalks in its efforts to extract the honey and insects from the innermost recesses. The male in the breeding season is also possessed of quite a sweet little song. A pair suspended their nest from a rafter in the verandah, but for some reason or other I failed to spot it until the eggs had been laid, and the very day following its discovery it was torn down and its remains strewn about the floor, probably by a tree-rat in search of material for its own ball of rubbish stuffed into a corner by a rafter a few feet distant.

From amongst the other birds mentioned in the list a few pages back, I took in close proximity to the bungalow the nests

of the following:—The Smaller White Scavenger Vulture (*Neophron percnopterus ginginianus*), Nukhta (*Sarkidiornis melanotus*), White-browed Fantail Flycatcher (*Leucocerca aureola aureola*), Northern Golden-backed Woodpecker (*Brachypternus benghalensis benghalensis*), Bay-backed Shrike (*Lanius vittatus*) and Black Drongo (*Dicrurus macrocercus macrocercus*), White-throated Munia (*Uroloncha malabarica*) and Baya (*Ploceus philippinus*), Indian Wren-Warbler (*Prinia inornata inornata*), the Ashy-crowned Finch-Lark (*Eremopterox grisea grisea*), Indian Pipit (*Anthus richardi rufulus*); and also nests of the Indian Sarus Crane (*Antigone antigone antigone*) and the Black-necked Stork (*Xenorhynchus asiaticus asiaticus*).

Besides the Neophron, the other common Vultures of Bharatpur were the Indian White-backed Vulture (*Pseudogyys bengalensis*) which outnumbered any of the other species by at least thirty to one, the Black Vulture (*Sarcogyys calvus*), and the Indian Griffon Vulture (*Gyps fulvus fulvescens*). Whenever I shot a Black-buck or Chinkara, after having first removed the head and skin and any portions we required for the larder, I used generally to sit down, more or less under cover about forty or fifty yards away from the carcase, just to see what birds and beasts of prey would turn up.

The speed with which Vultures made their appearance from almost every quarter of the Heavens was most amazing, though occasionally I have watched near a carcase right in the open for the best part of an hour without any sign from bird or beast to show that the carcase had been spotted, although distant specks high up proclaimed that Vultures were on the look-out. Generally the sky would appear altogether untenanted, but within a very few minutes there would be a heaving, hissing, and gibbering mass of ungainly birds fighting one another for places at the



SINGING BUSH LARK
Uragia cantillans cantillans



BROWN-BACKED INDIAN ROBIN
(*Sitta leucophaea latensis*)



SMALLER WHITE SCAVENGER VULTURE
(*Neophron phocaenoides*)



WHITE THROATED MUNIA
(*Uroloncha malabarica*)

revolting feast. They have, of course, more or less parcelled off the upper air amongst themselves, and one bird seeing its next-door neighbour, probably a mile or two away, dropping to a dead or dying animal in its own area, at once sets off on a colossal glide towards the spot for which its neighbour is obviously heading. No. 3, perhaps another mile or more farther on, spots No. 2 commencing its volplane and of course follows suit, and this sort of thing is repeated until all the Vultures for many miles round the spot to which the first bird dropped have been apprised of the fact that a meal awaits those who can arrive in time to participate in the torn flesh of the departed. Numbers I fear arrive only to envy their gorged brethren flopping heavily and sleepily round a mass of scattered bones, only of use to the slinking cowardly Hyena who will not dare to put in an appearance till dusk, in spite of the fact that he possesses colossally formidable jaws, which enable him to crush up the largest bones as if they were those of a chicken, and with which he could dispose of almost any adversary with which he is likely to meet.

The rush of air through the semi-closed wings of half a dozen Vultures dropping at a steep angle at terrific speed makes a noise so loud and so strongly resembling that produced by a gust of wind in the tree-tops that I have been completely taken in by it on more than one occasion, and not until the falling birds have actually come within my line of vision have I realized my mistake.

Such greed do these brutes possess that, in spite of an enormous wing-spread, which enables them to drift literally on motionless pinions from one horizon to the other in practically still air, at the end of their disgusting repast they can hardly raise themselves from the ground, and so lethargic do they then become that one can walk right in amongst them, and with a reflex, which

I unfortunately did not possess in Bharatpur days, their photography becomes almost too easy to be worth while.

Not alone did Vultures appear on these occasions but Crows, Kites, an occasional Tawny Eagle, and almost always a couple or so of skulking jackals, which, running hither and thither with much snarling and snapping of jaws and with tails for ever between their legs, would endeavour, not invariably with success, to chase off the birds. On one occasion, and one I shall never forget, as my rifle was completely out of action owing to a portion of the fired case having remained in the chamber, a pair of wolves trotted up to within about forty yards, and then, having spotted me seated by a bush about an equal distance on the other side of the kill, calmly sat down on their haunches and derisively watched me feverishly trying to clear my weapon. That, incidentally, was the only occasion on which I have ever had a possible chance of procuring one of these animals, as in most parts of India they are now becoming scarce.

The White-backed Vultures used to breed very freely in the larger pipal trees, one tree frequently having two nests in it and occasionally three. I never once saw a nest that was not difficult of access, so never troubled to investigate any of them. The other Vultures likewise seemed always to choose situations difficult to reach, and only the filthy Scavenger Vulture was unconcerned as to where its abode was placed. The roof of a tumbled down building, the main fork of a tree but a few feet from the ground, or yet a ledge on a church or temple tower, anywhere did for it.

Some time ago in Secunderabad I was watching one of these birds building in the top of a very tall palm, when an intruder of the same species alighted on the ground near by. The owner of the nest at once took objection to this and set off to chase it from its area, but, as I expected, a fight did not ensue. The two birds

The nest was in a curious spot, being built inside an old nest of a Syke's Striated Swallow, the tubular entrance to which had somewhat crumbled away. I succeeded in getting quite a pleasant photograph, including the bird standing on the ledge above the nest. Later on the same pair made two attempts to raise a second brood: the first of the two quite close to the old site in a crevice in the wall below a window still, and the second on a shelf actually inside the lamp room, a small room at the back of the bungalow with a single barred window without glass. When this latter nest was almost complete, a thoughtless servant swept it away.

These confiding little birds were very common in Bharatpur, and, as they have a very misguided preference for human propinquity, almost every bungalow had its lodgers. The nests, I noticed, were rather untidily put together, and had little in the way of lining. The eggs were in no way unusual, being pale blue-green with small reddish spots mostly around the larger end; unspotted eggs I never came across. I wonder why these chats should ape Robin Redbreast. Perhaps it is because they rather resemble them in plumage, much more so in fact than do the Indian Robins, and having realized this fact and seeing that Indian Robins are far from familiar, they may think that it is up to them to do their best to fill the gap in the heart of every new arrival from home who longs for anything English.

The Rock-Chats were not alone in choosing weird places for their nests. Stranger than the above was the situation of a Yellow-throated Sparrow's (*Gymnorhis xanthocollis xanthocollis*). This little bird is just what an aristocratic House Sparrow should be but is not,—well-mannered, quiet, and not too familiar. It approximates to the female of that species in appearance, but has a rather long and slender bill, the distinctive pale yellow throat-patch, and for nesting sites largely patronizes holes in trees, and,

although found round about habitations, is addicted to scrub jungle and fairly open country. Still, one of the strangest of nesting sites was that chosen by a pair of these birds close to the house. An iron gate, seldom closed, and situated but some 15 yards or so from my bedroom door, led from the side of the compound into a field. The gate posts were of stone and through one of them a hole had been pierced for the bolt. This was certainly not more than $1\frac{1}{2}$ inches in diameter on the outside and I very much doubt if it got any bigger within, and certainly there did not appear to be room for the birds to turn, as I noticed that they invariably reappeared from the hole on the opposite side of the post to that by which they had entered. This may have been merely due to habit, of course. Unfortunately I find I have made no entry in my diary as to whether their efforts were crowned with success or not, and I cannot now remember what happened.

Another rather abnormal Yellow-throated Sparrow's nest was in the old nesting hole of an Indian White-breasted Kingfisher, a passage some 2 feet deep. This nest I opened up, as it was only about 9 inches down from the top of a sandy bank. There were four eggs in a small cup in a large and rather loose untidy collection of grass and feathers, the latter greatly predominating. After photographing it, I roofed in the hole again with small slabs of stone which I discovered near by, covering these up finally with earth and sand, and had the satisfaction of seeing the birds carrying on quite happily. Some days later, however, the nest was raided and the eggs eaten either by rats or some other of the many pests with which Indian birds have to contend.

More confiding than the above were the Bulbuls, two species of which lived in the compound, namely the Central Indian Red-vented Bulbul (*Molpastes cafer pallidus*) and the White-eared Bulbul (*Molpastes leucogenys leucotis*). As the sun set

Black-bellied Finch-Lark, which strikes me as a most appropriate name, as it helps immensely in its field identification, the drawback to such a name of course being that the abdomen is chocolate and not black. The Finch-Larks are close sitters, and I saw an extraordinary case of devotion to duty a couple of months back, in March to be exact. I was putting a number of recruits through a rapid practice on the rifle range, when I noticed a pair of Ashy-crowned Finch-Larks about twenty yards in front of the firing-point. They were gradually working their way closer and closer up in short little runs. The female eventually took up a position on a small stone, perhaps twelve or fifteen yards away, where she remained for the rest of the practice. The male, however, easily distinguished from his consort as she lacks the deep chocolate underparts, continued his advance to a tiny prickly apology for a bush, where he stood for a few moments close to a nest which was plainly discernible now that its position had been given away. Having inspected its contents and after walking round it once or twice, he settled down on the single egg it contained and ceased to take any further interest in the fiendish noise which was going on within some twenty feet of him; even though I could see the muzzle blast perceptibly shaking the little bush at each discharge of the rifles opposite. A few days later, when I was again at the same firing point, the egg had been hatched, and this time both birds brought food to the infant on two or three occasions and the female covered it once for about ten to fifteen minutes. This infant, by the way, was clothed in pale reddish-buff down which matched to perfection the sandy surroundings. The nest was a very scant affair of grass, a mere lining to a small cavity scratched out in the bare ground, but more than half the rim was composed of a strip of dirty grey cloth about four inches long.

Munias and Common Weaver-Birds' nests were numerous everywhere, the latter seeming to have a great predilection for babool trees close to wells or overhanging borrow-pits along the two railway lines. Everyone is familiar with the retort-shaped nests of the Baya and the quarrelsome activity of these little finches as soon as the rains start, but perhaps not with that of the Black-throated Weaver-Bird (*Ploceus benghalensis*). The latter's nest shown here was just within the edge of a patch of elephant-grass and quite alone. I noticed it while photographing a colony of Common Weaver-Birds in a babool tree near by. This Weaver-Bird always makes its nest in the manner shown, bending over the tops of the reeds to form a sort of scaffolding from which to suspend it.

Though a distinctly catching tuneful whistle from the corner of the compound by the railway embankment, close to the Common Babblers' nesting-site, continually proclaimed the presence of a pair of White-browed Fantail Flycatchers, the beautiful little cone-shaped structure created by this species was not to be found within my garden's limits, and it was not until the breeding season was nearly over that I discovered two nests in the scrub jungle some 200 yards across the railway. One was a used one at the extremity of a branch of a prickly babool tree at about five feet from the ground; the other was in process of construction across a twig springing from the lowest branch of a *nim* tree, and about ten or twelve feet up. Unfortunately it was torn down a few days after I found it.

The only Wren-Warbler I definitely identified in Bharatpur was the Indian Wren-Warbler though there are certainly others. I took a number of their nests at different times, most of which were of the long purse-shaped variety. In fact, when I come to think of it, I only found one of the small domed nests and this

was in a sort of prickly weed on 'Chink Hill' and was only about six inches off the ground; 'Chink Hill', incidentally, being a low elongated feature about one and half miles behind the bungalow, and so christened as it was a most excellent hunting ground for that beautiful little gazelle, the Chinkara.

The Sarus Crane is supposed to breed during the rains and the majority undoubtedly do so, but so long as there is plenty of water they are not over-particular about the time of year. The nest shown in the illustration contained fresh eggs, and I took this photograph on February 7th.

I have noticed that the Black-necked Stork does not affect just one particular jhil or marsh, but each pair seems to appropriate a considerable extent of country to the exclusion of others of the species, and the nest is often some distance from water. For instance, there was a nest in a tall half-dead pipal less than two hundred yards from my bungalow, when the nearest water was the best part of a mile away. Another, a landmark for miles around, being in a dead and leafless tree close to the road to Dig, was certainly half a mile from water, while a third was beyond the railway station and also in a pipal, but this one was in the centre of a small flooded area. These three nests formed a triangle with about a mile and a half side.

The nests are invariably colossal affairs, and must sometimes be large enough for a man to lie on at full length. The depth of the nest is also very considerable and often not less than the breadth. However, such a structure befits such a bird. The beautiful purple and green iridescent gloss on the black portions of the plumage is well nigh perfect, and when stalking about Mother Earth, the bird has a most dignified and well-groomed appearance.

I cannot finish this chapter without some reference to the bird noises of the night. Around the bungalow these were many and

varied, but the most frequently heard and easily distinguished were the chuckling of the Nightjars and the grunting hoots of the Owls. The Common Indian Nightjar (*Caprimulgus asiaticus*) was excessively common and once, when making my way across a little hollow close to the railway embankment, I found myself on the point of stepping right amongst a bunch of five. One does not often spot a motionless Nightjar in its jungle element, when on the ground at any rate, but it was the black shining eye of one of the five which just caught my attention. The call of this bird has indeed been very rightly likened to the noise which is produced by a stone skimming over ice.

Chief amongst the Owls was the Dusky Horned Owl (*Bubo coromandus coromandus*) and secondly his near relative the Indian Great Horned Owl (*Bubo bubo bengalensis*), at least one pair of which lived at Chink Hill. These birds used to stray as far as my compound, and consequently I often heard their grunting calls. The distinctive voice of the Dusky Horned Owl was to be heard from all sides, but chiefly from the grounds of the Moti Jhil, a bungalow just across the railway with a super-abundance of large pipal and other leafy trees around it. This bird is very common in Bharatpur and every grove and garden appeared to have its tenants, as well as the large patches of jungle such as the Chotta Ghana and those around the Keoladeo Ghana. During the rains and the cold weather, this Owl is most noisy and not only at night. In the monsoon months, especially, their voices are often to be heard in the very middle of the day. True, dusk is the time when they are most vociferous and are more generally met with, but in habits they are very diurnal. Nor do they shun mankind, but on the other hand, like the noisy little Spotted Owlets, are commonly to be discovered in and around villages. The most curiously placed



BLACK-THROATED WEAVER BIRD



PINK-CRAG MARTIN



nest of this species, which I have ever come across, was placed in a dead and leafless pipal on a low horizontal branch which barely cleared the roof of a kutch building in the very centre of one of the largest villages in the State. The nest was large, probably the appropriated nest of a Kite, and was a conspicuous object from all over the village, as was also our friend the Owl sitting upon it. A number of naked children playing around the base of the tree in no way disturbed Her Majesty, nor did she appear in the least put out by the unwonted sight of shining topis and white faces. Another rather curious situation was in the main fork of a very lonesome tree standing in some flooded fields, also close to a village. It was certainly not more than seven feet from the ground.

This fine bird breeds from the end of the rains onwards to about December, and, besides appropriating the disused nests of other birds, is said to build for itself a fairly large stick affair. The nests, which I suspect to be of the birds' own manufacture, are rather shallow but nevertheless compact and about eighteen inches or so across, and are generally placed fairly high up amongst the lesser and leafy branches of large trees, and consequently are fairly well concealed. The appropriated nest on the other hand may apparently be anywhere, so long as it takes the fancy of the birds and appears to be a large enough and strong enough structure for their nursery.

In 1918 I noticed a White-backed Vulture on its nest half way up, and close to the trunk of, a perfectly tremendous but climbable pipal tree. Wondering if by any chance they ever make use of a nest twice over, I revisited the spot again in December 1919. Over the rim of the nest there peered at me, not the ugly head of a Vulture, but the cat-like visage of a Dusky Horned Owl. This is the nest which appears in the accompanying plate.

CHAPTER II

A SOUTH INDIAN HERONRY

Some years ago when I was stationed at St. Thomas Mount just outside Madras, my attention was drawn to Volume iii of the 2nd Edition of *Hume's Nests and Eggs of Indian Birds*, wherein on pages 238 and 239 is the description by an anonymous writer of a certain heronry at a place called Vaden Thaugul not far distant from the Mount. I at once decided to search out this village to see if the place was still in existence, since heronries have a habit of persisting for a great many years and I had hopes of finding it little changed in spite of the lapse of four decades. My many adventures in search of it and after I had rediscovered it, so to speak, are contained in the following pages, but first as some of my readers may not be in possession of Hume's and Oates' admirable work, I append *in toto* the said description of this breeding ground.

‘About fifty miles from Madras and twelve miles from Chingleput in a south-easterly direction is a small village called Vaden Thaugul

The Vaden Thaugul tank is situated north-north-west of the Carangooly Fort, and is three and a half miles distant in a direct line from the Great Southern Trunk Road.

‘The bund, whose greatest height is twelve feet, commences from a piece of high ground near the village, runs for a distance of about six hundred yards in a south-easterly direction, then takes a sharp turn almost at a right angle, and terminates in high ground about two hundred yards further on. The waterspread is limited on the north-east by slightly rising ground overgrown with low

jungle, and on the east-south-east by high gravelly and rocky ground. The area comprised in the tank is about thirty-five acres.

‘ From the north-east to the centre of the bed of the tank there are some five or six hundred trees of the *Barringtonia racemosa*, from about ten to fifteen feet in height, with circular, regular, moderate-sized crowns, and when the tank fills, which it does during the monsoons, the tops only of the trees are just visible above the level of the water.

‘ This place forms the breeding resort of an immense number of water-fowl—Herons, Shell-Ibises, Ibises, Water-Crows or Cormorants, Darters and Paddy-birds, etc., make it their rendezvous on these occasions.

‘ From about the middle of October to the middle of November small flocks of twenty or thirty of some of these birds are to be seen coming from the north to settle here during the breeding season. By the beginning of December they have all settled down; each tribe knows its appointed time, and arrives year after year with the utmost regularity within a fortnight later or earlier, depending partly on the seasons. They commence immediately by building their nests or repairing the old ones preparatory to depositing their eggs. When they have fully settled down, the scene becomes one of great interest and animation.

‘ During the day the majority are out feeding, and towards evening the various birds begin to arrive in parties of ten, fifteen, or more, and in a short time the trees are literally covered with bird-life: every part of the crown is hidden by its noisy occupants who fight and struggle with each other for perches. Each tree appears like a moving mass of black, white, and grey, the snowy white plumage of the Egrets and Ibises contrasting with, and relieved by, the glossy black of the Water-Crows

and Darters and by the grey and black plumage of the Shell-Ibises.

‘ The nests lie side by side touching each other, those of the different species arranged in groups of five or six, or even as many as ten or twenty, on each tree.

‘ The nests are shallow, and vary in inside diameter from 6 to 8 inches according to the size of the bird.

‘ The Ibises do not build separate nests, but raise a large mound of twigs and sticks shelved into terraces as it were, and each terrace forms a separate nest ; thus eight or ten run into each other. The Shell-Ibises sometimes adopt a similar plan.

‘ The whole of the nests are built of sticks and twigs, interwoven to the height of 8 or 10 inches, with an outside diameter of 18 to 24 inches ; the inside is slightly hollowed out, in some more and in others less, and lined with grass ; reeds and quantities of leaves are laid on the nests. During this time the parent birds are constantly moving on the wing, backwards and forwards, in search for food, now returning to the young loaded with the spoil, and again, as soon as they have satisfied their cravings, going off in search of a further supply. About the end of January or early in February the young are able to leave their nests and scramble into those of others. They begin to perch about the trees, and by the end of February or the beginning of March those that were hatched first are able to take wing and accompany their parents on foraging expeditions ; and a week or two later, in consequence of the drying-up of the tanks in the vicinity, they begin to emigrate towards the north with their parents and friends, except perhaps a few whose young are not as yet fledged, and who stay behind some time longer. Thus in succession the different birds leave the place, so that it is completely deserted by the middle of April, by which time the

tank also becomes dry ; and the village cattle graze in its bed or shelter themselves under the trees from the scorching heat of the mid-day sun, while the cow-boys find amusement in pulling down the deserted nests.'

The directions given here seem sufficiently comprehensive, so to find it should not have proved particularly difficult, but unfortunately I was suddenly transferred to Trichinopoly, which delayed matters until March of the following year. On March 5th, 1926, it so happened that I was called to Madras to give evidence in a court case against a bright youth who had forged my initials on a stray railway warrant in so many places that it resembled a Chinese puzzle. Having finished at the court by 11 a.m. I decided then and there to make an attempt to find the heronry, so rushed to the railway station only to be told that no available train went further than Chingleput. At Chingleput not even a tonga was procurable, let alone a car, so I had perforce to squash myself into a springless bullock-bandī drawn by an animal hardly as large as a donkey, and in this I optimistically set out about 3 p.m. to cover the supposed 12 miles to Vaden Thaugul. And now a further problem presented itself. Carangooly Fort I was able to fix, as there is now a railway station, 13 miles south of Chingleput, bearing the not very dissimilar name of Karunguzhi, close to which I ascertained that the remains of a fort did verily exist ; but of Vaden Thaugul no information whatsoever was obtainable. Alas I was without a map, and could only recall the fact that Vaden Thaugul was said to be 12 miles south-east of Chingleput which placed it in my mind somewhere between Karunguzhi and the coast and to the east of the Grand Trunk Road. Had I remembered that it was also said to be north-north-west of the Fort, I might have realized that a slip of the pen had crept in, as it could not possibly be south-east of Chingleput and

yet westwards of Karunguzhi. As it was, I found myself actually on the outskirts of that village with the sun already setting, rapidly coming to the conclusion that Hume's correspondent must have had very good reasons indeed for remaining anonymous. At this point, however, I fell in with a wizened veteran carrying a muzzle-loading weapon every bit as old as himself who professed to be a shikari, and I elicited from him that some 7 miles away to the WEST of the road was a village named Vedan Thangal where waterfowl did actually collect. Mark the difference; *Vedan Thangal* and not Vaden Thaugul. Many times afterwards, when I was within a mile or so of the heronry, I purposely asked the way to Vaden Thaugul and always got a blank look in return. Times change and so do pronunciation and spelling, though I admit I am not a Tamil scholar, so perhaps the fault lies with myself.

It was of course impossible to follow up the clue then as night was already falling, and it was imperative for me to catch the Ceylon Mail right back at Chingleput as, alas, it did not stop at Karunguzhi. Twenty-four miles of a springless bullock-cart with a yelling Jehu keeping his reluctant half-starved animal at a shambling trot saw me back at the station almost wishing heronries had never been thought of. And so ended my first effort.

Again I was transferred—to Lahore, a far cry from Madras, but fortunately I had once more to go to Trichinopoly for the space of two months to a Territorial Battalion. November 30th, 1926 therefore saw me a second time at Chingleput with a whole day at my disposal before the training started. Early that morning I took a train to Karunguzhi and there found a boy who professed to know English and who said he could take me to Vedan Thangal. His English turned out to be scant in the extreme, and no matter



WHITE IBIS (*Threskiornis melanoccephalus*)
AND LITTLE CORMORANTS (*Phalacrocorax niger*)



WHITE IBIS
(*Threskiornis melanoccephalus*)



INDIAN LARGE CORMORANT
(*Phalacrocorax carbo sinensis*)



INDIAN DARTER
(*Upupa melanogaster*)



NIGHT HERON
(*Nycticorax nycticorax*).



LITTLE EGRET
(*Egretta garzetta garzetta*).

what question I put to him I invariably got an emphatic *yes* in return so the information I gleaned from him about the heronry was unreliable to say the least of it. As the rains had failed and from the train I had noted that a great many tanks were quite dry, I feared that once more I might draw a blank, but no matter whether I gently suggested that we would find no birds or yet many birds at the spot, my self-appointed guide immediately agreed with either proposal. We therefore plodded on. After crossing the main road at the very spot where I had met the doddering shikari in the previous March, we came upon Madurantakam Tank, a sheet of water some miles square with an arm about half a mile wide running out in a north-easterly direction. The water not being so deep as usual, we now proceeded to wade laboriously across this arm, sometimes nearly up to our waists, along a submerged bund or causeway. We then skirted the main tank for another mile or so and traversed a plantation of young casuarinas. Emerging therefrom, the object of my search at last appeared. There was the bund as described with the village at one end, the slightly higher ground at the other, and in the eastern half of the tank-bed the five or six hundred leafy trees of the *Barringtonia racemosa*. Water, alas, there was none, or rather a few shallow pools with one flock of three dejected Teal floating upon the largest one. Of other birds there was no sign. To say I was bitterly disappointed would be untrue, as I had at least the satisfaction of knowing that I had undoubtedly hit upon the right place, but an investigation of the trees made it hard to believe that birds ever bred there, as not the slightest vestige of an old nest could I find. However, "when rain coming, birds coming", as translated by my guide, seemed to be the tale of all the ryots working in the fields around, so my spirits rose, especially as it was undoubtedly an ideal place for a heronry. An examination of the tree-trunks

showed a well-defined watermark barely three feet from ground level in the case of the trees furthest from the bund, but seven or eight feet up those near the centre of the tank. The shape of each tree was most remarkable. They looked like so many giant umbrellas, the branches and foliage being cut clean off as it were, at water level. In height they varied from, I should say, 15 to 25 feet and were so close together that only in a few places were gaps of any size to be found in the undulating mass of foliage. Close to the edge nearest the tank's centre there was a well-defined lane running through them at right angles to the bund. There were also a few isolated trees separate from the main mass. No further useful information being forthcoming, I retraced my steps, leaving with the boy a couple of postcards to be posted to me at intervals of a month. These he actually posted on the due dates, much to my astonishment, but each bore the information that no rain had fallen so no birds had appeared.

Once more I left Madras behind, and this time, as I thought, with little prospect of seeing it again, but after enjoying a furlough at home and spending a year in the Khyber, to my great satisfaction my Battalion was actually posted to St. Thomas Mount, so that in September 1928, just before the north-east monsoon broke in a furious storm, I found myself in my old bungalow there. Four days of incessant rain had practically filled all the tanks in the neighbourhood, so I felt certain that if "rains coming, birds coming too" was really a fact, I would at last find the heronry occupied. It was not however until November 26th that I was able to go there. From the map I now possessed, I had noted a village called Pudupattu, barely two miles from Vedan Thangal, up to which I could get a car, so I arrived in the vicinity of the tank with considerably less trouble than previously. On the way from Pudupattu I saw a couple of Egrets and later a single Open-

bill, and when at length the tops of the trees in the tank came into view over the rising ground to the east, I at first saw no birds other than a flight of Cormorants which swooped over the bund and disappeared from view behind the crests of the further trees. However, when I came in sight of the water a very different scene appeared. Some hundreds of snowy-white Egrets were standing around the margins of the tank ; many were following the ploughs in the rice fields, while a hummock projecting from the water was white with birds, and at the edge of a narrow channel a couple of Spoonbills and an Open-bill were leisurely paddling about. Even now the existence of nests was still open to doubt, but when I advanced to the bund and was able to look thence across the strip of water on to those trees which had at first been hidden from me, my excitement knew no bounds, for from water level to their summits, the trees without exaggerating were completely covered with birds. Here were a couple jet-black with Cormorants ; there another snow-white with Spoonbills. A colony of Open-bills occupying the crest of one of the tallest trees was outlined against the sky and the blue-grey of many Herons also impressed itself upon me ; but on the whole in the words of Hume's informant " each tree appeared like a moving mass of black, white, and grey," but the white was not that of the Egrets who were strangely aloof standing about in groups quite separate from the other species on the isolated belt of trees. The birds to be seen besides these Egrets were Open-bills, Spoonbills, Cormorants, Grey Herons and Night Herons, and even at this distance it was evident that they were hopelessly mixed together, although a definite area held a preponderance of Spoonbills and another of Open-bills. The scene was not exactly one of feverish activity, though occasional bands of Cormorants swung in with a loud swish of fast-moving wings low over the toddy palms lining the bund. A Snakebird,

a few Cormorants, and also Open-bills, were noted coming in with sticks for their nests, but the majority of birds appeared to be standing about doing nothing whatsoever. It therefore seemed to me that laying must be the main occupation of the moment. However, the conclusions I came to from thus watching the heronry at a distance nearly all proved wrong; so I will not risk befogging my readers as to the true state of affairs by discoursing upon them. Of noise there was comparatively little, merely a subdued murmur as of a busy throng, a crowd whose number I found it an impossibility to gauge, though after further visits I estimated it at being not less than five thousand birds. One of my friends insisted on thirty thousand as his estimate, so I certainly think that my computation can be taken as in no way an exaggeration.

The occupied trees were those in the deeper water; so, a boat being essential, I went to the village to see what chances there were of obtaining one. It transpired that the chances were exactly nil. There was no boat in the village and I was given to understand that none was procurable in the neighbourhood, not even from the Madurantakam tank, added to which I was politely told that they did not at all like the idea of my disturbing the birds. On my inquiring the reason, the village Karnam produced a stained sheet of paper which proved of the utmost interest. I have often cogitated over the age of some of these heronries, and here was a document which, if followed up, might lead to my finding out the age of this one. Unfortunately the writing upon it was in Tamil, but it bore three illegible though obviously English signatures and was dated 1858. I wonder if this very copy was shown to Hume's informant? There was a man in the village who purported to be the chowkidar of the tank. He knew a very limited amount of Urdu and through him I learnt that this

document gave to the village the right not only to stop shooting on or near the tank but to prevent interference with the birds in any form. It seemed that it had been issued by a Collector of the District. On my return to the Mount I therefore approached the then Collector of Chingleput, but it appeared that no trace of any such document ever having been issued existed in his office. However, shortly afterwards, when on tour at Chingleput, he very kindly offered to go with me to the place, and on March 1st, 1929 we went there together. The paper turned out to be a copy of a yet older document issued by one Mr. Place who was Collector of Chingleput from 1796 to 1798, so the age of the heronry had now risen to a minimum of 130 years. To trace its existence further back will, I fear, prove impossible, as this part of the country came finally into our possession about 1780 only after Haidar Ali and Tippoo had been once for all expelled from the district. It is of course obvious that the order would never have been issued had not the village been already in a position to consider itself the special guardian of the heronry. In other words its existence stretches back into a dim and distant obscurity. The Collector also enlightened me as to the reason for this guardianship. I fear me a love of bird-life does not enter into the picture: the reason is purely a mercenary one. Owing to the water of the tank being considered to possess high fertilizing properties, the value of the land irrigated by it is assessed for revenue purposes at a higher rate than other land in the vicinity. Personally I could believe anything of such water. By March its colour and consistency are that of pea soup and its odour compares favourably—save the mark—with the most evil-smelling of Harrogate's medicinal springs. One thing I cannot quite understand: I know the Madrasi is no naturalist, but it appears to me most strange that the existence of a heronry of such

antiquity and superlative interest should be utterly unknown to the European population of the district, many of whom do take an interest in bird-life and to most of whom Madurantakam tank, from which Vedan Thangal is not a mile as the crow flies, is well known.

There is one other point of interest in connection with its history. The village has a perpetual complaint to make, this being that, except in very good rains, water does not, or is not allowed to, flow into the tank—the reason for this I do not know but doubtless the Irrigation Department know all about it. The point however is this: it is by no means uncommon for the tank to remain dry, as it did in 1926, and at times even a couple of cold seasons may pass without giving the birds a chance of breeding there. Has this always been the case? If so, how is it that the heronry has been able to persist? Lastly, where do the birds go when the tank is dry? These are questions I cannot answer, but with regard to the last one, all my inquiries and expeditions have failed to bring forth the existence of any other heronry in the district, though lately I have had suspicions that there may be one roughly 40 miles out of Madras near the Bangalore road.

My next visit after November 26th was nearly a month later, that is on December 20th, just prior to which I had fortunately managed to borrow a collapsible boat. I am of course more than grateful to the brother officer who was good enough to lend it to me, and I used it throughout the 1928–29 season but, alas, it had its limitations. There was room only for my cameras and myself, so that I had to both paddle the boat and manipulate the reflex at the same time. Its extreme lightness and shallow draught often rendered this more difficult than it appears to be, as the very slightest puff of wind set it drifting, with the result that having got into position for a photograph, before I could bring the reflex





PAINTED STORKS (*Myiactes leucorhynchos*),
INDIAN LARGE CORMORANTS (*Phalacrocorax carbo sinensis*)
AND LITTLE CORMORANTS (*Phalacrocorax niger*).

to bear on the subject I had in mind, the wind would swing me round to face again in the wrong direction. On one occasion a gentle breeze caused me to drift very slowly ever closer to the object of my desire, a Spoonbill. Through my not having to use the paddle or make any movement whatsoever, the bird seemed to be quite oblivious to my gradual approach with the result that I soon found its image completely filling the focussing screen. Eventually I drifted up so close that I could have touched the bird with the end of the paddle. A much worse disadvantage, however, was the boat's extreme instability which made it absolutely impossible for me to stand or even kneel in it. I could therefore see into comparatively few nests to note the contents or materials of which they were made, and photographs of nests and eggs with the half-plate camera were completely out of the question.

On one visit I was very nearly indebted to the said officer in another manner. Knowing how touchy some of these villagers can be over the question of what they may consider interference with their property, I had always made a point of being as sweet as sugar to the inhabitants of Vedan Thangal, particularly as at the time there seemed every possibility of our remaining at the Mount for four years. On one occasion, however, a companion who had accompanied me unfortunately had a slight altercation with an inebriated denizen of the village. As a result the boat with its valuable cargo of cameras and lenses was quietly removed while we were having lunch under a shady tree on the outer side of the bund. We only got it back, fortunately none the worse, after I had gone to the trouble of fetching a Police Inspector from a post five miles away.

Later, the Collector, who kindly impressed upon these misguided sportsmen the fact that my visits did no harm and would not frighten away the birds, told me that a probable contributory

cause of the incident was that I had not employed anyone from the village, and that they objected to seeing money I paid out for the honour of visiting their heronry, going into the pockets of coolies from elsewhere. However, good cometh forth out of evil, and this set me wondering if there was not a way of getting a car right up to Vedan Thangal, as the boat had perforce to be carried from the car, consequently I had to get coolies wherever I stopped. I remembered that the old shikari had spoken of seven miles and yet I had found the distance only three, and sure enough by going four miles along a road, which branches off the main road at the 47th mile-stone from Madras, and then three miles across country over undulating ground covered with bushes about two feet high through which runs an ill-defined cart track, I managed to reach the village with nothing worse than a bent number plate.

After my experiences in the 1928-29 season it was evident that I must have a boat more suited to my purpose. With the help of the Battalion carpenter I therefore set about building one. My requirements were stability, room for at least two people and a quantity of apparatus, something which would not be at the mercy of every little puff of wind, and lastly an affair which when folded up would strap on the footboard of the car. In all these ways the strange-looking craft we evolved, more than fulfilled its purpose. In fact the combined and heated efforts of my wife and myself can barely move it through the water, but I ought not to complain, as, in spite of it being but canvas and wood and by no means an impossible burden for a single cooly, I can sit on the side and yet it does not overturn and consequently I can stand up or climb out of it into the trees with no fear of a tragedy occurring. As a result in 1929-30 I was enabled to get an excellent series of photographs from it and to investigate the treasures of the heronry

with much greater effect. However, I think it is time I turned my attention to the birds once more and went back to my visit of December 20th.

As the result of my first observations from the bund, I expected to find the nests still with eggs. In fact the idea of young ones barely crossed my mind, and I had taken the half-plate field camera with me especially for photographs of nests and eggs. Paddling slowly up to the strait from the north side of the tank, I of course first met with the Egrets. As I reached the first tree, I was surprised to note that not only were there no signs of nests, but that the birds were not even in breeding plumage. The Egrets then were not breeding there but merely using the trees for resting places. This was the first shock, so to speak. The next was a considerably bigger one. The great majority of birds had young ones, and feathered ones at that. However, before I deal with each bird, I had better describe in detail the general lay-out of the heronry.

Roughly speaking, only about one-third of the trees were occupied, probably 150 in all, those in the shallower water being void of birds, so that the trees containing nests ran in a belt some 50 yards wide at the eastern end to 150 yards wide at the centre of the tank. Cormorants and Night Herons were everywhere. I really doubt if there was a single occupied tree which did not hold their nests irrespective of whatsoever other species were in occupation. Both these species were in lesser numbers towards the extreme west end which was the stronghold of the Spoonbills, where three rather isolated trees were quite white with these birds. Spoonbills were also dotted about here and there in threes and fours over the rest of the area. Grey Herons preponderated towards the east, but these birds certainly made no attempt whatsoever at forming colonies, single nests being distributed

here and there throughout. All more or less close together in the centre of the area on the summits of three or four trees were a fair number of Open-bills, and on the lower edge of one of these Open-bill trees were four pairs of White Ibises, a bird whose presence I had not noted on my first visit. Tucked away behind the Open-bills, but not far from the strait, were a few pairs of Snakebirds; while on a lowish tree containing a number of nests of Little Cormorants and Night Herons, was a lone nest of a pair of Large Cormorants. I subsequently found one other nest of this species. Night Herons and Cormorants formed easily three-quarters of the population with Spoonbills not a bad third. This was the impression conveyed as I floated hither and thither amongst the trees.

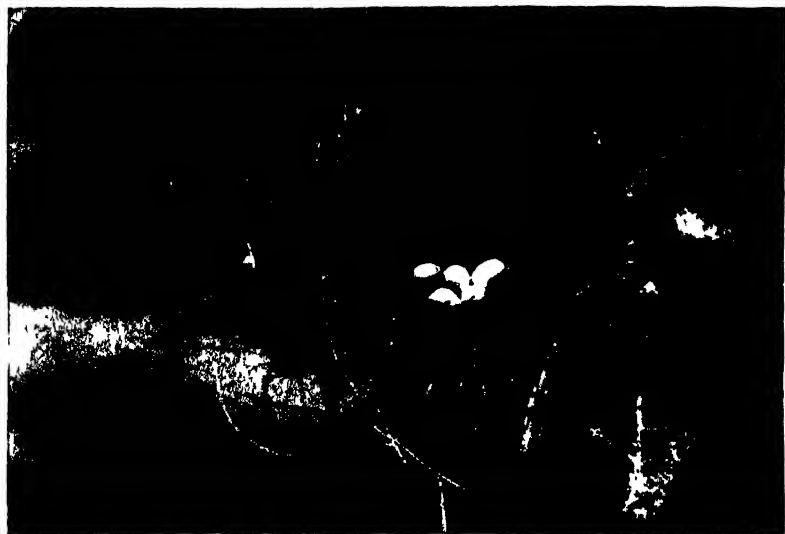
On nearly the same date the following year I found practically no difference. Open-bills were occupying a few more trees as there were more of them. Spoonbills were certainly fewer and Night Herons outnumbered the Cormorants, but the same general plan existed with the same amazing intermingling of all species. This intermixing at first thoroughly puzzled me, as nowhere else have I come across it, and with so many empty trees the obvious overcrowding seemed so unnecessary. More often than not, such species as Open-bills, White Ibises, Spoonbills and Snakebirds, though perhaps nesting together in the same heronry, occupy completely separate portions thereof; but here were all kinds seemingly indiscriminately mingled together. I give as example one of what might be termed the Open-bill trees. This had the following nests distributed about its surface. A Spoonbill's with three fresh eggs in it, another with two; five Open-bills' on the summit of the tree all with newly-hatched young ones; a little to one side and slightly lower, four more Open-bills' with from two to four eggs. Immediately above the Spoonbills' nests were



INDIAN GREY HERON (*Ardea cinerea rostratoris*).



PAINTED STORK (*Ibis leucocephalus leucocephalus*).



OPEN-BILL (*Anastomus oscitans*).



LITTLE EGRET (*Egretta garzetta garzetta*).

two more Open-bills, one empty, the other with two eggs. At one side of the tree adjacent to the group of four Open-bills', were a number of Night Herons' nests with eggs, and sprinkled generally all over, were many Little Cormorants' containing both eggs and small young ones, two of them actually touching Open-bills' nests. The date of the note from which the above is taken, by the way, was February 16th.

I consider that there are three main factors contributing to this state of affairs: firstly, the depth of the water: secondly, that the flocks of many species do not arrive at even approximately the same period: thirdly, that these flocks are most numerous and individually small in strength, thus the heronry is composed of a very great number of small colonies of each species ranging from only three or four up to about twenty pairs.

Cruising amongst the unused trees I found that I could invariably touch bottom with my paddle, and it will be remembered that, when the tank was empty, I noted the watermark on the tree-trunks as being not three feet up along the northern edge, so may not the birds have learnt from bitter experience that the receding waters are apt to leave nests in these trees a prey to any animal which can climb just at a time when the protection of the surrounding water is most needed, that is when the nests hold helpless young.

Now take the second point. In 1928-29 I visited the heronry six times between December 20th and March 7th and on every occasion I found Night Herons' nests with eggs. On March 7th many Night Herons', and even some Spoonbills' eggs were still unhatched and on March 1st, the last time I tested any eggs, I was surprised to find numbers of the Night Herons' were quite fresh. It was on February 7th that I had realized that Night Herons were definitely still coming in. I had been in the habit

of pushing my way in between the lower untenanted branches of two trees to get into a tiny bay as it were, but on this date when I came to do so, I found upwards of a dozen new Night Herons' nests occupying these very branches, three of them so close to the water that I had great difficulty in pushing the boat through without tipping out their contents. The eggs in these nests varied from two up to in one case six, all of which were eventually hatched out. In the 1929-30 season on January 10th, when I was some twenty miles down the Chingleput road, I saw about thirty Open-bills flying in the direction of Vedan Thangal, and when I visited the place on February 16th it was obvious that more Open-bills had actually turned up since my previous visit. In fact I investigated a number of new nests, finding them to contain fresh eggs, whereas the older colonies had then newly-hatched young ones.

The fact that the number of trees safe to use is limited, and that at any rate up to well on into February birds are still coming in, means that those arriving after the first flurry, so to speak, have to settle down in any vacant space they can find sufficiently large for the requirements of their particular flock. Thus it is that trees may be found containing batches of nests of practically all the species inhabiting the tank, and that there may even be two or three separate colonies of the same kind of bird at different stages in separate quarters of the very same tree.

Having described the form of the heronry and told its history as far as I can ascertain it, it remains for me to go into the details of the nidification and habits of each species. Altogether, in the two seasons covered by my notes, I put in nine visits, but for the sake of clarity I will give a general account of each bird on the strength of the sum total of my notes. First of all I must remind the reader that in 1928 the rains broke very early, towards the

end of September, while in 1929 the tanks remained empty till late in October.

Phalacrocorax carbo sinensis—Large Cormorant.—In spite of the enormous collections of most of the other birds, only two pairs appeared to frequent the heronry as in both years I was only able to find two nests. These were immediately distinguishable from those of any of the other species as they were massive deep structures, a mixture from top to bottom of sticks and leaves. In both years they were placed in the very same situations, being about eight feet from the water on trees otherwise occupied by Night Herons and Little Cormorants. That each year they were able to choose not only the very same trees but the same places on them, is more interesting than it appears to be at first sight. It was a most noticeable fact that any discarded nest was immediately demolished by other birds for new nests or repair materials, and I had particularly noted the disappearance of this nest early in February 1929. It will also be remembered that when I visited the empty tank in 1926, there was not a vestige of an old nest, the reason of course being that those of the last birds to vacate are pulled down by the village boys for fuel. On December 20th, 1928, I photographed the sitting female which must have been covering chicks a few days old, as on the 30th I was able to photograph quite large young ones in down. By January 13th I noted them as nearly ready to fly, and on February 7th they and their parents were nowhere to be seen, and as related above the nests too had disappeared.

On December 29th, 1929, both birds were sitting on eggs, and even on February 16th the young were still in down.

Phalacrocorax niger.—The Indian Little Cormorant obviously likes company and failing its own that of any other species. I really believe that in this heronry to find an occupied tree without

some Cormorants' nests in it would be an impossibility. A few trees were so thickly covered with them from near water-level to summit that at a distance with the sitting birds they looked like heaps of coal. They were not only on the outer surface open to the sky but the inner branches too were made use of, and any space capable of holding a nest was taken up either by this species or by Night Herons. The nests varied in construction in the two seasons to a marked extent. In 1928-29 they were chiefly of small sticks with a liberal supply of leaves—rather untidy somewhat flat structures about 8 inches or so across. In 1929-30 the majority of nests were of sticks and leaves with a heavy grass lining so profuse and at times so carelessly laid on that lining and eggs looked likely to slide off their foundations into the water. This grass was I think composed of the roots turned up during the ploughing in the rice-fields around, and the fact that nest building in 1929 was about a month behind time compared with 1928, was responsible for this difference, the ploughing not being under way when nest construction was started in the first year.

This difference of a month in the stage nidification had reached in the two years was as marked amongst the Cormorants as much as among the other birds, although fresh batches of Cormorants were undoubtedly still coming in as late as February 7th. On December 30th, 1928, there were very large numbers of young as big as their parents, the majority still in down, whereas the day previous in 1929 the young that were to be seen were at most a week old and there were large numbers of eggs about, incidentally the most I noted in a nest being five. The down by the way is exceedingly thick, dull black and very woolly. I never made out what the young were fed on in this heronry. Madras is ill-provided with permanent sheets of water so that fresh water fish are somewhat scarce. Of course the Madurantakam tank

must be a source of such a supply, but nevertheless the only food remains I saw were mutilated frogs.

Anhinga melanogaster—Indian Darter.—Snakebirds were unduly scarce, and in both years I doubt if there were more than half a dozen pairs. Their nests were so situated in the weaker branches of the highest trees in the main mass that I was unable to get at them, but newly-hatched excessively ugly young ones were noted in three nests on February 7th, 1929. The young Darter does not take after the young Cormorant, the down which is equally thick and woolly being white with the result that the young birds are most conspicuous.

Threskiornis melanocephalus melanocephalus—White Ibis.—There were never many of these birds. In 1929–30 I estimated their numbers at 60 or 70 as against about 10 pairs in the previous year. On December 20th, 1928, the only colony noted was one of four nests on a flatish space low down on an Open-bill tree, the nests being close together and only about two and a half feet from the water. Two of them contained two eggs and two three, and the latter number was not exceeded in any nests found subsequently. On the 29th, I noticed that a few more birds had arrived as I counted a colony of a further ten while one or two others were seen flying about. By January 13th the original colony had tiny young ones, but I came on one nest which I had not noticed before with young about the size of bantams. By February 7th all these young were able to clamber about the branches of their tree and so indulge in their usual exasperating habit of climbing through to the far side of the tree whenever I levelled the camera in their direction. They are by no means alarmists but seem deliberately to avoid being photographed.

In the 1929–30 season on December 29th, most of the nests had eggs—the colonies incidentally ranged from three to five pairs with

one of ten or fifteen—but I noted two nests with very newly-hatched young ones.

With this species, therefore, unlike any of the others, nidification was at about the same stage in both years. The nests were small structures, eight inches or so across, flat and unlined. On one occasion I found a nest with its eggs covered over with two dry leaves and a few twigs. I may of course have disturbed the owner when it was about to do some repairs, but as the nests of the Ibises were unlined, this does not explain the presence of the leaves, which consequently I think may have been placed over the eggs to shade them from the fierce sun during the owner's absence.

It will be remembered that Hume's informant talks of the Ibises of this heronry building terraced communal nests. I have never seen this sort of thing either in this or any other heronry, and in both seasons the only approach to anything of the kind was a bunch of about four nests, which I noticed on February 7th, which probably had merged into a structure approximating to such a place from continual repairs to nests which were exceptionally close together in the first instance.

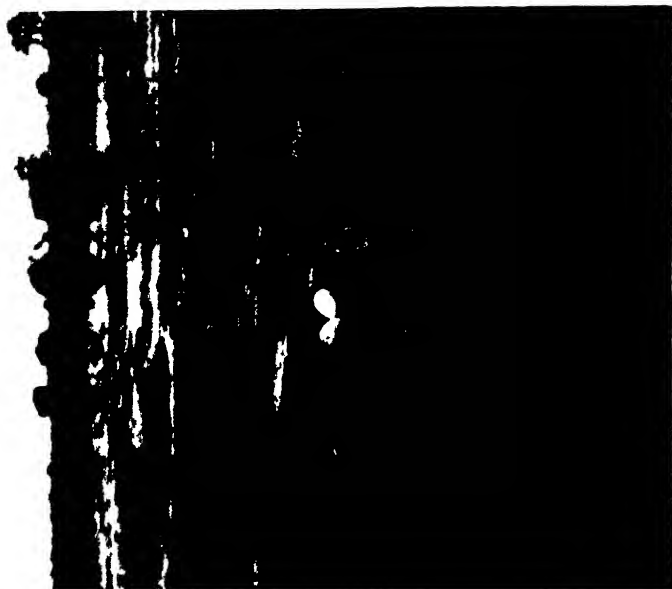
In such a thickly populated area it is often most difficult to recognize which birds are responsible for the many quaint noises which go to make up the general din. It was therefore quite a considerable time before I realized that a peculiar grunt was produced by the Ibis. I had noted the sound before, but it was not until I was photographing an Ibis at particularly short range, that I realized that this very bird was responsible for a series of mysterious and most ventriloquial grunts, an almost imperceptible movement of the slightly-opened bill accompanying each sound. The note is not loud but vibrant, and I believe it could be almost exactly reproduced on a low string of a bass violin. When heard



INDIAN SPOONBILL (*Platalea leucorodia major*)



LITTLE CORMORANT (*Phalacrocorax niger*)



SARUS CRANE
(*Antigone antigone antigone*)



OPEN-BILL
(*Anastomus oscitans*)

at a distance emanating from a number of birds at the same time, it sounds like people talking—the sort of exasperating back-verandah mumble which always prevents one from dropping off into a peaceful slumber during the afternoon siesta.

Platalea leucorodia major—Indian Spoonbill—A few colonies of considerable strength were to be noted, but the nests were generally distributed throughout the heronry, though single nests were rare. They were placed practically from water level to about half-way up the trees, and although usually on the outer surface of the tree, a few—including the one in the photograph here—were placed on branches well inside the foliage and so shaded from the direct sun. The nests varied considerably in construction, some being flat structures with fine twigs or grass for lining, others lined with leaves and consequently very like Open-bills' nests. Yet again not a few were bulky affairs nearly as deep as wide. They were in considerable strength, and I think, to put their numbers at 300 or 400 pairs would in no way be an exaggeration. They were on the whole the latest birds nesting, as the majority of eggs were only just hatching off on my visit on February 7th in the earlier of the two seasons; while on December 29th, 1929, I noticed only two nests with eggs and in a great many places I could only find flattened spaces ready for nests, while on February 16th I saw no nests with young. The newly-hatched young are quaint little things with white down and fleshy-pink bills of quite normal shape. The bill, however, very soon shows signs of thickening, and gradually becomes bulbous at the tip with a slight downward trend. It is not until the young are completely feathered that their bills resemble those of their parents.

Both adults and young were easy to photograph, the young ones showing very little fear indeed, while the adults, rather shy at first, became noticeably tamer at each visit.

Anastomus oscitans—The Open-bills in 1928–29 were confined to less than half a dozen trees and all even on December 20th had young ones, one treeful being of quite an advanced age, so that by December 29th they looked capable of flight. On January 13th numbers were actually seen on the wing. By March 1st, nidification was practically over but I doubt if any birds had left. Seemingly they were all waiting for two backward colonies. On March 7th on my arrival very few birds were at first seen on the trees, but numbers came in to see what the commotion was about. These latter I had seen circling high above the heronry on motionless pinions ever gaining height on the air currents, whence they descended at a great pace with semi-closed wings and dangling legs, swaying from side to side in a somewhat unsteady manner.

In 1929–30, when I reckoned there were present about 200 birds in all, ranging from colonies of but two or three pairs up to one of about fifteen, nidification must have begun considerably later, as on December 29th the very largest young were not as big as chickens. On February 16th, the December young were capable of flight, but more birds had then arrived, a few of which were still only laying.

When these birds finally leave the tank, and *where* they go, is indeed a problem, but on three separate occasions I have seen birds passing over St. Thomas Mount which I think were most likely from Vedan Thangal. On two occasions they were flying more or less north, but on the last they were heading for the coast. The dates, incidentally, were March 5th, 1924, March 29th, 1929, and the very end of April 1930 when owing to the late monsoon the birds were very behind hand as compared with normal years.

I inspected closely about twenty nests altogether, all of which were very similar, being flat fairly large platforms of sticks up to

about eighteen inches across, well-lined with leaves, many of which probably belonged to the living branches on which the nests had largely been built. I actually succeeded in obtaining a photograph of one bird with a leafy branch in its bill.

I really cannot agree with Hume's informant that the Open-bills make communal structures. None of these twenty or so nests which I closely examined showed signs of being anything but totally separate homes though a few actually touched one another, while large numbers of nests, which I could see from the boat, were likewise quite separate.

Another point with which I also disagree is Hume's remark that the Open-bill does not mix with other species. A reference to the description further back of the nests covering an Open-bills' tree brings forth the fact that Little Cormorants' nests were actually touching those of Open-bills. These Cormorants' nests had small young ones in them whereas the Open-bills' belonged to a new colony which were still only laying. From this it is evident that the Cormorants were the first arrivals, and not intruders on the Open-bills' preserves. Another tree in which were Open-bills' nests likewise contained nests which had obviously been there when the Open-bills commenced operations, as close to, and on a level with, two nests containing small young ones were two Herons' nests with feathered inhabitants. Incidentally, whereas the nests of other species were both on the outer surface and within the trees, the Open-bills' nests were invariably open to the sky and practically at the summits of the highest trees available. A few were only about half-way up, but this was because the top portions were already occupied by other Open-bills. I saw no nest containing more than four eggs or young, and three or four seemed to be normal. Quite a number of nests however only had two eggs, and two young to a nest were also remarked.

The Open-bills were undoubtedly the easiest of all to photograph. The young ones were quite indifferent to one's presence, at any rate until they were fledged, and after the first couple of visits, the adult birds became quite easy of approach.

Ardea cinerea rectirostris.—I believe I said of my first visit that the Grey Herons were densest in the eastern half of the breeding area. This was certainly so, but it in no way implies that there had been any attempt at forming groups. The Grey Herons were quite content to spread themselves amongst the other birds, and in other heronries I have seen, where more definite quarters are taken up by each species, the different races of Herons and Egrets are to be found breeding in company with Cormorants. I find that I also noted a tree containing both Open-bills' and two Herons' nests side by side, the Herons, judging by the state of the nests, obviously having been the first in possession of the tree. This was the only occasion that I noted these two species together. I think the reason for their lack of friendliness towards each other is that both prefer the same situations, resulting in one seizing on an available tree to the exclusion of the other. Where possible, the Herons take up their abode on the higher trees, and on the tops thereof, though I noticed a good number of nests had also been built from half-way between water and tree-summit. The nests varied in size, some being as large as those of the Open-bills and others barely large enough to hold the eggs, the size of which was the only fact whereby these latter nests could be distinguished from those of Night Herons. The adults and small young were exceedingly difficult to photograph, but fully-fledged young were not quite so shy, and I got a few good photographs of them. The young in down, as soon as they had gained sufficient strength, would clamber out of the nests into the inner foliage in an attempt to hide themselves, whilst the old birds, which came quite

unconcernedly to the nests so long as I was not nearer than about thirty yards, would counter any attempt on my part at a nearer approach by immediate departure. Grey Herons must have been among the very first to arrive, and I doubt very much if any more came in after the commencement of the new year. In 1928-29 by the end of February, all but a few stragglers had left. Large numbers of Cormorants, and I think Night Herons too, had also left by then, so that I estimated that the population of the heronry had dropped by about half. In 1929-30 I seem to have rather neglected the Herons, but I see that on December 29th, when but few of the other birds had any young ones at all, many Herons' eggs were hatched, and a few nests had young getting their feathers. Incidentally I don't remember seeing more than three young ones in a nest, and often only two.

Egretta garzetta garzetta—Little Egret—I have already given elsewhere most of the scant information I gleaned about these birds. Unfortunately I have no idea whether the great numbers of birds which were always seen around the tank eventually bred there, as my visits came to an end when but few of them showed any inclination that way, but certainly not more than a dozen were under way in early March 1929, and on February 16th, 1930, I only saw two pairs, one of which was only building while the other was still laying. I also failed—a great mistake I must admit—to make certain of the state of plumage of those wandering about the fields, though on February 16th, when we embarked at the west corner of the tank with something like a couple of hundred birds in a bunch some two to three hundred yards off, I do remember thinking to myself that they were still not in breeding dress, but as I had unfortunately no binoculars, of course I may have been mistaken. After seeing the Open-bills heading northwards, and bethinking me of the fact that except in the cold weather one

sees nothing but Night Herons, I could not help wondering whether the majority of birds are those which breed in Upper India in the south-west monsoon, but that perhaps the north-east monsoon affects a few of them.

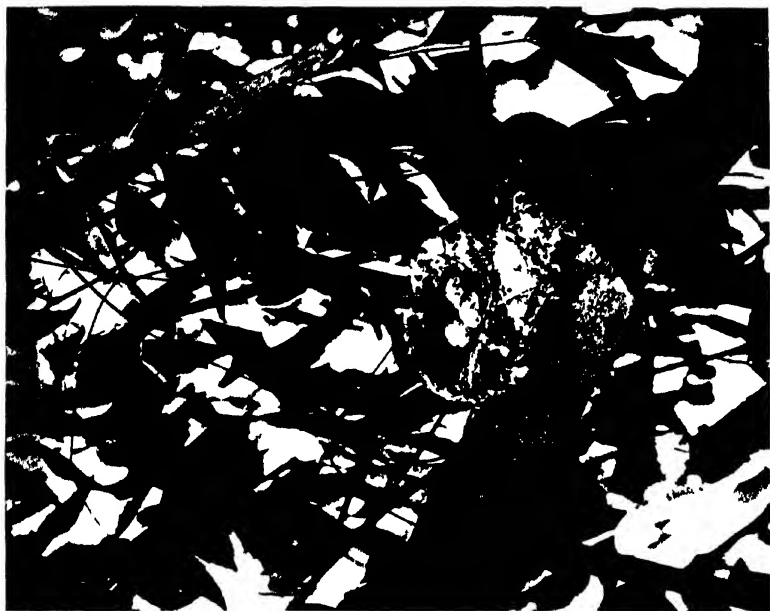
Nycticorax nycticorax nycticorax—Night Heron—Of this bird too I seem to have said nearly all there is to say. The one really noticeable fact about its nidification was the exceptionally long period over which it extended. On my first cruise in the heronry on December 20th, 1928, not only did the nests contain both eggs and young but a number of young birds were actually seen in flight; yet on March 7th, although the population of the heronry had certainly dropped considerably, and I think the departure of Night Herons was at any rate responsible for part of the decrease, there were still numbers of fresh eggs to be found. This points to two possibilities: the first, that some colonies feel the urge to breed with the appearance of the rains, whereas others wait for some months before setting off to the breeding ground. The second possibility is that no sooner is one brood finished with, than another set of eggs is laid. The first I think is the case, as I notice that in my notes of February 7th I have said 'Cormorants in lesser numbers, and Night Herons in large numbers, seem to be still arriving, building, and laying.' Again, later in the notes of the same day, 'Reading over what I have written on previous visits, I am inclined to think that Night Herons have increased in numbers very considerably since Christmas.' The Night Herons' nests, along with the Ibises, were unlined, and to distinguish one from the other without the help of the eggs or birds would have been impossible, both being loose shallow structures of sticks about eight inches or so in diameter. The normal number of eggs was undoubtedly three or four, but five were not uncommon and as many as six were noted, while as few as two young in a nest



SARUS CRANE (*Antigone antigone*)



YOUNG OPEN-BILLS (*Anastomus oscitans*)



MAIABAR SMALL MINIVET
(*Pericrocotus cinnamomeus cinnamomeus*)



INDIAN PURPLE SUNBIRD
(*Epicorina asiatica asiatica*)

was not an infrequent occurrence. The young in down were, as my wife described it, of a sandy-beige colour, the down being by no means thick but rather long and inclined to stick out on the head. The larger young, and the adults too, were not easy to photograph, as the former invariably clambered away into the recesses of the foliage, while the latter either did likewise or sought safety in flight before I was close enough.

In 1929-30, by the way the Night Herons were in excessively large numbers and easily outnumbered the Cormorants when I visited the tank on December 29th and February 16th. This I suggest may have been due to the late breaking of the monsoon, whereby the early birds had not finished and taken their departure before the later breeding colonies put in their appearance.

CHAPTER III

CHIEFLY ON SUNBIRDS

When describing the birds of my Bharatpur garden, I said little on the subject of that tiny bird which is common to the whole of India, excepting the extreme north-west, but which is none the less a thing of beauty and a joy for ever,—the Indian Purple Sunbird (*Leptocoma asiatica asiatica*). Much has already been written of the nidification of this bird in '*Nests and Eggs of Indian Birds*', and Hume's own description of it is so complete that it is hard to add anything further on the subject. All of my readers, however, may not be in possession of this admirable work, and many descriptions I have read of the nesting of this bird, are apt to convey the impression that the main structure is first completed and on to it all manner of decorations in the form of spiders' webs, chips, bark, scraps of paper, etc., are afterwards stuck with an idea of either making it pleasing to the eye or more probably to camouflage it. Incidentally I once remember seeing a nest outside a regimental office-door plastered with many scraps of white paper. This idea of the sequence of nest-construction is undoubtedly incorrect, so I give below instances of nests I have myself observed during construction and some notes in general on the nidification of the Purple Sunbirds.

On the 24th of July, 1923, I was sauntering round the compound of the bungalow I was then occupying on the outskirts of Madras, when my attention was suddenly attracted to a Purple Sunbird, a female, which flew down to a very low date-palm and seemed to have become greatly interested in a point a few inches from the extremity of a drooping frond. On looking at the

invariably leaving when one was some fifteen or twenty yards off gave it away, especially as it always flew straight from the nest into the upper foliage of the surrounding trees.

The second nest was also in forest and close to, but not actually in, a patch of thick undergrowth. Like the other one it was amongst a crackling mass of dead leaves, but its back was let into a little depression in a bank at the foot of a tree. On close examination there turned out to be no real foundation to this nest at all. A hollow had apparently been scraped out in the leaves and in this a loose hemispherical roof of thin dry seed grass had been constructed, its diameter being about 6 inches. The entrance was rather large and somewhat untidy, and the three eggs which it contained rested merely on the fallen debris. I put up the hiding tent and settled down within to wait for the birds to appear, but after spending the whole morning in a most cramped position without result, I discovered to my extreme annoyance, on making a closer inspection of the eggs, that they were all bad and the nest obviously a deserted one. The yolks of all three were thickly clotted. In fact it took me some days to thoroughly clean one of them, so it must have been given up some time before. My misspent morning was not altogether wasted however, as I had spotted through a spy-hole a Northern Indian Stone-Chat (*Saxicola caprata bicolor*) visiting its mate on a nest in a bank a few yards higher up the slope.

On this occasion I spent the first ten days of May in Mahabaleshwar, and besides the above my discoveries included many nests of the Southern Red-whiskered Bulbul (*Elathea jocosca fuscicaudata*), a couple of Southern Indian Black Bulbuls' (*Microscelis psaroides ganeesa*), a couple of Indian Pipits', a Ceylon Red-vented Bulbul's (*Molpastes cafer cafer*), and a Bombay Green Barbet's (*Thereiceryx zeylanicus inornatus*), a

White-spotted Fantail Flycatcher's (*Leucocerca pectoralis*), and an amazing series of three nests of the Malabar Whistling-Thrush. The latter were empty but one and all surprisingly fresh looking and were all clustered together round the face of a small boulder in an almost dry stream, the interval between each nest being at most two feet. I cannot now think why on earth I never photographed them, as, though empty, the photograph would have been of considerable interest. They were, of course, in all probability successive nests built by one pair of birds.

Of the Black Bulbuls' nests one, found on May 8th, was in a decidedly unusual position, being barely 5 ft. from the ground in a thickish bush close to a forest ride. The other, taken on the 6th, was in a more normal situation, resting in a fork at the end of a slender horizontal branch of a small forest tree in a clump at the edge of the Race Course. Even this was rather low down as it was certainly not more than 15 ft. up. As the tree did not look as if it could bear much weight, I sent up a small *chokra* to see what was in the nest, and before I could stop him, the young imp had stepped on to the very branch which held the nest. Down it bent to a fearful angle, and fearing that it was about to break, he hurriedly relieved it of his weight with the natural result that he gave to us below a very creditable imitation of the working of the old Roman ballista. Up shot two eggs four feet into the air, one of them to flatten itself against a branch, the other spreading its greasy remains over my hand as I made a valiant but unsuccessful attempt to retrieve it intact.

The owner of the jerry-built Southern Red-whiskered Bulbul's nest in the accompanying illustration provided me with considerable entertainment. The nest, as one can see, was built with the usual disregard of durability, concealment, and want of forethought displayed by many species of Bulbuls. All the

Previous to this the first hours of daylight had been spent in energetic nest-building, the birds flying to and from the site at very short intervals. Operations seemed to get gradually slower as the day went on, and appeared to cease entirely about 4 p.m. each afternoon. From where I slept on the verandah I could look straight across to the *nim* tree, some 40 or 50 yards distant, on one of the lower and smaller branches of which the nest was constructed at about 12 ft. from the ground, and I had therefore ample opportunities of watching their early morning antics at the nest. From below and even from slightly to one side the nest was absolutely invisible, being but a tiny shallow cup of a small quantity of fine grass cemented together with webs and lichen and decorated with bits of dead leaves and bark-scrap, the whole barely the thickness of the nearly horizontal branch on which it rested and with the colouration of which it blended perfectly. To be exact its extreme diameter was just under $2\frac{1}{2}$ inches, and I should think the whole affair could have been squashed up into a little ball the size of a small walnut, so it is hardly surprising that the Minivets somewhat outclassed the Sunbirds in the matter of speed of house construction.

The time taken by the Sunbird in building without doubt varies very considerably, and I have a last year's record of a nest which was completed within 6 days. The first day's work resulted in a stalk some 3 inches long which just showed signs of a division in its lower portion from which the sides were eventually to be formed. On the second day great progress was made, as the entrance and porch were completed and also the sides, front and half the back, leaving as the third day's task but the bottom and lower half of the back premises to be added. By the afternoon of the third day the female had actually commenced the filling. Three days more and the nest was obviously finished.

In this case the materials used for the envelope consisted exclusively of some grey woolly vegetable matter matted together and also cemented with the usual web. It should be noted that, although the time spent over this nest was very short, the method of construction was virtually the same as that of the first nest I described. The outside was completed in every detail before the filling and lining was put in hand. The so-called decorations are indeed component parts of the outer case and, far from being additions which might easily be dispensed with, are, or rather those not merely suspended from the structure are, the important solid portions—foundations—of the main framework.

By the 3rd June the female was sitting in all earnestness. Unfortunately the servants of the bungalow close to which this nest was situated had a regrettable habit of mutilating the trees in quest of firewood, and on the 5th the branch, from an outer twig of which some eight feet from the ground this nest was suspended, was ruthlessly torn down.

I have reason to believe that this nest was a second effort on the part of the pair which possessed the nest in the accompanying plate. Unfortunately I did not see the inception of this abode as the female was already sitting on two eggs when I arrived at the bungalow on April 10th. These eggs were both hatched on the 22nd. In the interval the male never approached the nest, and would only condescend to come up to a branch of a large-leaved tree some fifteen yards from the nest whenever he wished to call up his spouse. A few shrill chirrup from him, a single sharp squeak in answer, and she would dash from the nest to follow in his wake to some favourite spot where she would snatch a hasty meal ere returning to her post.

As soon as the eggs were hatched, however, his disinterestedness in the affairs of his household evaporated and he took a

certain share in feeding his family. The female was so bold that she showed no qualms about entering the nest even when I stood not six feet from it. The male, however, was never anything but shy, added to which he did not take his task any too seriously and brought food to his offsprings only about once to her four or five visits.

A striking feature of this nest was the manner in which the 'tail' was also attached to a twig. The nest was at a very windy corner of the bungalow verandah and I think the attachment was made in the interests of steadiness. At times the structure used to be swung almost into a horizontal position, and on these occasions, in a further effort to save her home, the female would sometimes stretch out and seize in her bill a twig which was often blown close up to the entrance hole. The young ones, by the way, left the nest fourteen days after hatching.

The last nest of which I wish to write came under my notice only last December, I arrived in Trichinopoly in the Madras Presidency on the 7th of that month, and at once noticed that a pair of Sunbirds was most interested in some Rangoon creeper growing on a trellis in front of my dressing-room window. However there were no developments until the 15th, when both birds suddenly appeared on the drooping twig which had so obviously been the centre of attraction to them both for some days. The female had a short length of very fine grass in her bill. After twisting about for some time, both birds making considerable noise incidentally, she dropped the grass and both flew away. This I think must have been the final conference, for on the 17th she really commenced work on this very spot.

In this case the nest was built in a slightly different manner, since the owners were a different species, being Purple-rumped Sunbirds (*Leptocoma zeylonica*). The twig drooped considerably

—at an angle of about 60° from the horizontal, I should say. She therefore wrapped the materials round it for a distance of about two or two-and-half inches finally causing the loose ends to project on either side of it. These projections were gradually increased, bent round and brought together, so that the shell was thus formed of two more or less separate halves joined together from below the entrance hole. The materials employed were short pieces of very fine grasses up to about two inches in length, cocoons, some lengths of white cotton, and spiders' web much intermingled with caterpillar droppings as the binding material. This shell took five days to construct. I went away for Christmas, leaving the female hard at it lining the interior.

Returning on the 28th, I found the nest complete, but rather feared that it had been deserted as neither bird was seen the whole day. However on the two following days, eggs were deposited, so all was well. The female turned out to be a most intermittent sitter, however, and by day was often absent for hours at a time. At night she was always at home, and each morning, when I left the house soon after 6 a.m., she was always to be seen fast asleep on the eggs. It is rather difficult to say therefore when incubation commenced, but from the dates on which the eggs were laid till they were hatched was a full sixteen days.

Halfway through this period I narrowly averted a tragedy. Hearing an inordinate amount of noise going on, I went to the window to find out the cause. The female was fussing around the nest, first hovering close to one side then passing to the other, or alighting on another twig about a foot away where she would twist and turn, continually flicking her wings while pouring forth a torrent of abuse. For some moments I watched the performance without comprehending its reason. Then a sudden movement

caught my eye, and there, standing under the leaves of the twig with one foot actually on the nest, was a lizard, not a blood-sucker but a rather slenderly-built yellow and brown one. Whether it was really after the eggs I did not wait to see, but went to the rescue at once, leaving the scene of action a few moments later with a considerable portion of the lizard's tail in my fingers.

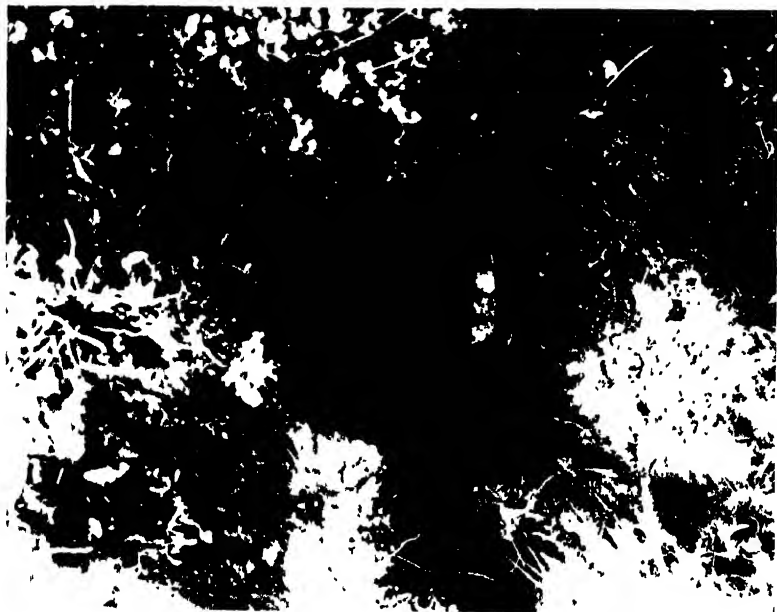
In this case the two young ones remained in the nest for 16 and 15 days respectively, as they both left together though they were hatched on successive days. The male was much tamer and took quite an interest in its nest from the beginning. It obviously helped to choose the site, or at any rate gave its approval thereto, and when the female was building it would very often inspect the structure, though I never saw it actually do anything in the way of building. It merely contented itself by poking its head inside, looking at the flanks, twisting round to look at the back or the bottom; in fact going through the same antics as the female but without doing anything useful. When the young were hatched, he took a really good share in the feeding operations, and at times his visits were almost as frequent as those of his spouse, though as a rule one visit to three of hers was about his average.

One wall of this nest was decidedly thin near the top, and I remember quite well wondering if it were not too weak. The female evidently came to the conclusion that such was the case, as two or three days before the eggs were hatched off, she spent the best part of an hour strengthening this portion of the nest with short lengths of fine grass and a further small quantity of spiders' web.

The above notes, I think, serve to illustrate the more general nidification of these Sunbirds. There is one type of nest, however, very often to be met with in certain localities, Secunderabad being

one such place and Madras another. It is a most noticeable fact that a large proportion of the nests to be found in and around those stations are constructed within large flocculent spiders' webs which abound particularly in the camel-thorns. The result is that, failing the presence of the bird, most of them are extraordinarily liable to escape detection. Mr. Stuart Baker in the Second Edition of the *Fauna of British India* series does not mention this habit when actually dealing with the Purple Sunbird. Under Loten's *Sunbird*, however, is a full note of such a type of nest and in his description of the nesting of the Purple-rumped Sunbird, I find the following remark :—"The nest is similar to that of the Purple Sunbird and like that bird's is often placed in a mass of cobweb. . . ." Incidentally I found a nest of this type near Jhansi when passing through that place last August. Whether this kind of nest is particularly aimed at concealment is not easy to say as one finds so many of the usual type of nest in most open situations. Nevertheless, I think it is quite safe to draw the conclusion that concealment plays a great part in the bird's plans.





NORTHERN INDIAN STONE-CHAT
(*Saxicola caprata bicolor*).



SPOTTED BABBLER
(*Pellorneum ruficeps ruficeps*)

CHAPTER IV

IN THE WESTERN GHATS

Early in April '24 I was ordered to Mercara in Coorg, but unfortunately only for the brief period of one month. I was kept very hard at work too, so opportunities for studying its avifauna were few and consisted chiefly in keeping my eyes open on my way to and from the parade grounds and during a few evening peregrinations around 'Beauvoir'. Nevertheless Mercara proved to be so full of bird-life that my notes soon assumed considerable proportions. From these I find that four birds particularly engaged my attention. These were the Indian Magpie Robin (*Copsychus saularis saularis*), the Deccan Scimitar-Babbler (*Pomatorhinus horsfieldii horsfieldii*), the Travancore (?) Spotted Babbler (*Pellorneum ruficeps granti*), and the Black-headed Babbler (*Rhopocichla atriceps atriceps*).

The first-named is, of course, to be found more or less throughout the length and breadth of India, but in Mercara it was excessively numerous. In fact it struck me as being the commonest bird within the limits of the station. Breeding was then in full swing, so I had the opportunity of observing the positions of a number of nests. From many notes on the subject in Hume's *Nests and Eggs of Indian Birds*, it is evident that the Magpie Robin does build at considerable heights from the ground, but as an exception rather than as a rule. In Mercara, however, nests at some 40 ft. from the ground level seemed to me to be the rule, and nests built in gables of houses and other low situations the exception. One nest I observed to be in the crown of a very tall palm. It must certainly have been at least 60 ft. from the ground.

Another was in a cavity more than half way up the trunk of a huge pine, and only one, in a gable end, was as low as 10 ft. from the ground.

Deccan Scimitar-Babblers were also numerous and were to be met with in any compound in Mercara provided a certain amount of low cover was at hand. I do not call this bird shy. Certainly they like hunting about in the undergrowth, but this I think is merely because such places provide the best feeding grounds and are best suited to their creeping habits. It is not that they are really afraid to leave the cover. On a number of occasions and in widely separated localities I have watched them searching in company with other birds the upper foliage of large trees. On one occasion in Mercara I watched two Scimitar-Babblers feeding with a party of Red-whiskered Bulbuls in the summit of a tree overhanging a cottage on the edge of a coffee plantation. A couple of children were playing by the cottage door and a pariah dog was making its disapproval of my presence known to all and sundry ; yet the Babblers did not mind. Another time, also in Mercara, I saw three of them feeding in an isolated tree a couple of hundred yards from the nearest patch of lantana. They took to squabbling—an accomplishment at which this species is very good—and only desisted and made off when I had almost reached the foot of the tree. I have also watched them in like situations in the Nilgiri Hills and at Mahableshtar. Mercara, as I have said, was very rich in bird-life. Flower-peckers, the Malabar Chloropsis, Minivets, Tits, Paroquets, Barbets and Woodpeckers abounded, but I have not the space to discourse on all I came across. We were once making our way along the side of a deep narrow ravine when the rapid tapping of a Woodpecker, probably Malherbe's Golden-backed, was wafted up from below, and on looking down the nullah I spotted a

lonesome dead tree the best part of half a mile away, the only likely-looking object in the neighbourhood. The jungle was very thick and from down below the tree was difficult to locate, but once found, there remained not the least doubt that this was whence the noise had emanated, for every single branch was so riddled with the holes of both Woodpeckers and Barbets that it was literally but a tottering mass of pulp, and if it has not yet collapsed I shall be very surprised. In one large branch, which was almost in two owing to the wood having decayed round some adjacent borings, I counted on one side of it alone fifteen holes, and on walking round I discovered about an equal number drilled into it from the far side.

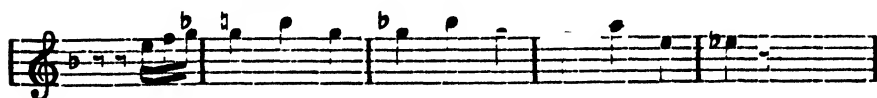
In Southern India in the higher hills Malherbe's Golden-backed Woodpecker (*Chrysocolaptes guttacristatus delesserti*) takes the place of the Southern Golden-backed Woodpecker. As regards the latter when I was living outside Madras, I noticed a habit which I never remember noticing in the Northern race when I was in Bharatpur, namely, that they feed on the ground just as much as they do in trees. Often did I see a pair revelling in the treasures of an ant-heap, and occasionally as many as three at once distributed over the surface of the compound moving about in ungainly hops in company with Mynas or White-headed Babblers. Malherbe's Golden-backed Woodpecker is possessed of a very feeble voice compared with that of the Woodpeckers found in the plains. It is also higher pitched and more tinny.

This same little valley, the head of the Sidapur Nullah, was the hunting ground of many Black-headed Babblers, happy little creatures true to the family in their way of going about in bands continually talking to each other in subdued cheeps. I feel almost inclined to accuse these birds of nesting in colonies. Of course I have only met with them in Mercara, so cannot really judge, but

there I don't think I ever came across less than two nests together and on two occasions I struck seven within a few yards of one another. Both of these batches were in deep wide ditches practically concealed by undergrowth and creeper and running through coffee plantations. Once in the ditch one could walk down its bed quite comfortably. The nests were loose spheres of coarse grass leaves or bamboo leaves, with occasionally a little moss or other material intermixed, and faced into the ditch, being anchored as a rule in hanging strands of creeper at about six feet from the ground. They were in a row at an almost even interval of about six or seven yards. The breeding season appeared to me to be almost over, though I see that they are said to breed from December to August, and this was but the end of April. However, two only of the nests were still being used as sleeping apartments by their respective families, one of which I found to consist of two parents and two children, the normal thing I believe. These ditches were rather secluded, but a love of seclusion for breeding purposes is not one of this bird's traits, as, though shy itself, I also found nests overhanging paths and close to roads. In nearly every case the nest was constructed in hanging creepers or brambles.

In this valley were many nests suspended over the pretty little stream which tumbled down its centre. It was here also that I made the discovery that the extraordinary notes, which a well-meaning Indian unsuccessfully attempted to make me believe were those of the Malabar Whistling-Thrush (*Myophonus horsfieldii*) were in fact produced by the Travancore Spotted Babbler. I consider the Spotted Babblers very interesting birds, but being of a retiring disposition, they are somewhat difficult of observation. Thick cover with a sufficient carpet of fallen leaves is most to their liking. Hence forest with considerable undergrowth is perhaps their favourite haunt, where they can hop, or perhaps I should say

waddle, unobserved, turning over the leaves in their search for insects, occasionally darting in prodigious leaps to catch one fleetier than usual. I have seen them in parties of three to five, but more often in pairs and alone, and, when hunting about the ground, they move with a peculiar somewhat dove-like gait with the body and head close to the ground and the tail bent downwards; a position very much resembling the characteristic poise of the Tree-Creepers. This is their general mode of progression, but, when wishing to move quickly, they are capable of covering a considerable distance in a single hop. They do not confine their activities altogether to the immediate neighbourhood of *terra firma*, but are fairly often to be noticed in low trees and hopping about thick bushes, every now and then leaving off chattering with their neighbours to give vent to their most attractive whistle, a clear far-reaching and very pleasantly toned effort. The song of the Western Spotted Babbler (*Pellorneum ruficeps jonesi*) was lately described in the *Journal of the Bombay Natural History Society* and is apparently somewhat similar to that which I heard in Coorg. The full lay of the Travancore Spotted Babbler, which is said to be the race found in Coorg, struck me as consisting of thirteen notes, and I append here my attempt at recording it in a playable form. Unfortunately it is more than a year since I heard it, and, though I memorized it thoroughly at the time by whistling it after every bird I heard singing, it is quite probable that in the course of the year I have introduced slight variations, which in the aggregate may amount to my version being considerably at fault.



The full song is not always indulged in by the way. The songster often starts off quite merrily and then for no apparent

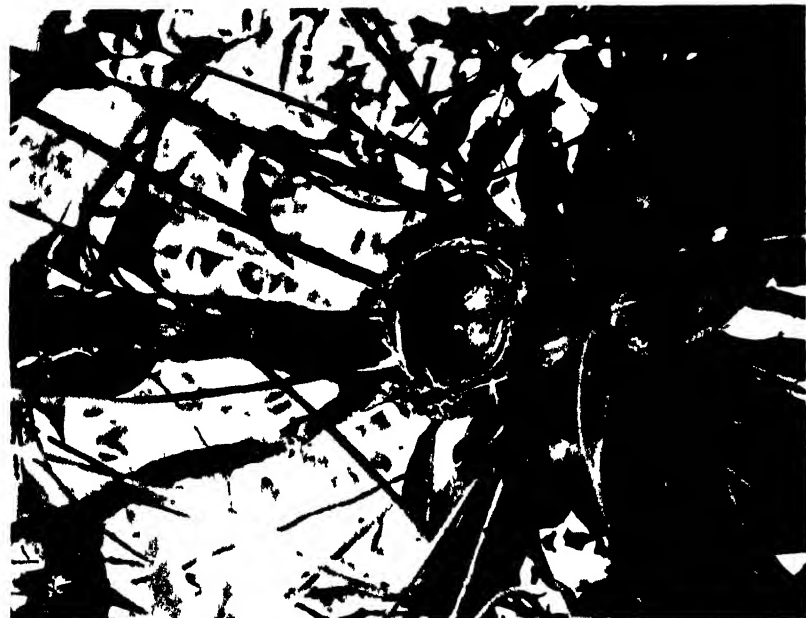
reason suddenly breaks off; it may be towards the end of its effort or almost at its very start; just like someone who has commenced to whistle the latest popular ditty and in the very middle of a bar has suddenly recalled an imminent appointment of a particularly unpleasant nature.

Last April I came down the Kotagiri Ghaut from the Nilgiris by rickshaw and when passing through the thick jungle at the bottom, that is when I was certainly not more than a thousand feet above the plain, I suddenly heard the whistle of a Spotted Babbler close at hand. Unfortunately I could not see the minstrel and had not time to stop to investigate. Anyhow, the song consisted of the same number of notes uttered repeatedly, and, as far as I could make out, was absolutely similar to that recorded for *jonesi*. This I presume would almost certainly be *Pellorneum ruficeps ruficeps*, the Common Spotted Babbler. Altogether it produced three bursts for my benefit.

In Coorg I was not lucky enough to come across their nests, but at Mahableshwar three years ago, I remember finding two nests of the latter race. Though shy birds, one of them had very unwisely built its nest in a leaf-filled hollow just within the fringe of trees which encloses one of the tees on the golf links. It soon became known to the caddies, one of whom pointed it out to me. The bird endured the publicity till the full clutch of three eggs had been laid, but the frequent disturbing of its attempts to incubate soon caused it to desert. The nest was absolutely unconcealed, its back alone resting against the stem of a small and scraggy prickly stalk, which I suppose called itself a bush. Nevertheless the untidy domed nest, surrounded and half-submerged by the dead leaves, of numbers of which it was itself composed, with the dome a fairly bulky but loosely built affair of fresh grasses, was exceedingly difficult to spot, and only the fact of the bird



NORTHERN GREEN BARBET
(*Therapseryx zeylanicus caniceps*)



SOUTHERN RED WHISKERED BUNTING
(*Tlathia c. fuscicaudata*)



SOUTHERN INDIAN BLACK BUNTING
(*Mniotilta psaltes eance*)

spot, but some 3 ft. from the normal ground level as the palm grew at the foot of a bank, I at first noticed nothing at all unusual, but on going closer I discovered a minute piece of web had been wound round the stem with a loose end perhaps half an inch in length left hanging down. Five days later the nest had progressed to the extent of being in shape not unlike the upper half of a crinkled paper bag suspended from the branch, or a small edition of an unfinished Weaver-Birds' nest without the cross bar, but of grass there was practically no sign. It was indeed a scant collection of the usual materials found on the outside of these nests, being a flimsy envelope of little scraps of bark, wood chips, small portions of dead leaves and a few very short lengths of dead grass, the whole held together by spiders' web amongst which in one spot was a small quantity of caterpillar droppings. On the 4th August this outer shell was almost completed and reminded one of nothing so much as of a deflated penny balloon, the entrance hole appearing like a rent in its side.

The next step appeared to be the construction of the porch, and by the 8th this and the outer shell were altogether finished, even down to the ragged little bits hanging down an inch or so below the nest on loose strands of web, but of inner grass nest there was still no sign. After this no further work was done on the outside. In the making of the porch short lengths of grass had been employed, and from this time on grass and then down were the main items brought by the builder. During the next week the 'balloon' was quickly inflated, the bottom even on the afternoon of the 9th presenting a more or less rounded appearance, and, on looking into the nest on the 16th, I found two eggs had been laid. I do not know for certain on what days these eggs were deposited, as for three or four days previously I unfortunately omitted to look inside. At any rate, the building undoubtedly

took a full three weeks. During all this time the male appeared to take no interest in the nest whatsoever, and certainly while I was actually watching never came closer to the nest than about ten yards and this only twice.

I find in my diary for the 30th a remark to the effect that the Sunbirds' eggs appeared to have been hatched about two days, and later that they left the nest either on the afternoon of the 15th of September or early morning of the 16th, as they were there after lunch on the former date, but had left it when I again visited the nest after breakfast the following day. The whole operation therefore took fifty-four days, made up approximately as follows:—Nest-building twenty-two days, incubation fourteen, and rearing eighteen. On the 11th September, my bearer brought to me a half-naked young Sunbird of apparently the same species, which he had found lying in the middle of the main road. I suppose it had been dropped by a crow or other thief, but nevertheless it showed no signs of injury. Taking pity on its sorry plight, I popped it into my Sunbird's nest where it was at once adopted, and, though very much younger than its foster brothers or sisters, it thrived, and was comfortably ensconced in sole possession on the 16th. How long it remained there I do not know, as I did not go near the place again for some time.

In strong contrast to the tedious nest-building of these Sunbirds were the efforts of a pair of Malabar Small Minivets (*Pericrocotus cinnamomeus malabaricus*), which started building in the same compound on the 19th July. So quick were they that by the 29th the full clutch of three eggs which the nest then contained showed distinct signs of incubation. The nest was certainly completed by the 25th, as the female was on that morning observed to be seated on it for an unbroken period of at least 3 hours, i. e., from 7 a.m. till I left the house at 10 a.m.

supports being on one side only, the increasing weight of the fast growing youngsters was causing it to heel over to an increasingly perilous angle each day. I was not there to witness the rude awakening of the infants to the realization of the lack of common sense displayed by their revered parents, but I hope the structure withstood the forces acting on it until they were old enough to look after themselves. The bravery of the bird I took to be the female was really most amazing. On my discovery of her treasures she retreated but to a twig within a few inches of the nest and danced there in a perfect fury, with beak agape and wings vibrating half open, swearing and spitting like an influriated lynx, and, when I presumed to put my fingers into the nest and to snap off one or two twigs which were in the way, it really looked as if she were about to attack my hand. Seeing her attitude, I at once rigged up the camera but the moment the fearsome lens was attached her extraordinary courage evaporated, and not until I had brought the hiding-tent into use would she venture to the nest again.

In my wanderings in Mahableshtar through a number of patches of rather stunted and fairly open forest growth, I came across a great many old nests of what I suppose must have been the White-throated Ground-Thrush (*Geokichla citrina cyanotis*). They were placed on an average about 5 or 6 ft. from the ground in the fork of a tree or fairly open bush, and moss and mud figured largely in their construction. I saw a goodly number of these birds about. They were very common in Coorg too. Besides possessing an energetic and very pleasant song, which they proclaim most vigorously in the evenings, they have a peculiar note, if note it can be termed, extremely like the noise of a screeching slate-pencil.

CHAPTER V

THE NILGIRI HILLS

The Nilgiri Hills naturally have an avifauna very similar to that to be found along the Western Ghats, but there is also to be found in this range a number of species one is not likely to come across further north. It was partly in the hopes of meeting with these and also due to convenience, that I spent my leave both in 1924 and 1925 at Kotagiri. In 1925, we went up for April and I at once made myself acquainted with the Longwood Sholah and was very glad that I had made it my first objective. All through the month the wood rang with the ceaseless noise of countless birds, chief amongst which were the Green Barbets and Black Bulbuls for noise and the songs of the Blue Flycatchers, White-Eyes, and Nilgiri Blackbirds for sweetness. I again went up for a second month in July and was at once struck by the comparative silence of this same wood. The Blue Flycatchers' song was absent, the White-Eyes' subdued notes nearly so, and quite often one entered the precincts of the forest in a deathly silence.

This sholah was a particularly good spot for the Nilgiri Blue Flycatchers (*Eumyias albicaudata*), and their sweet and penetrating song was almost always the first to be borne in on one's hearing. Normally they appear to hold cavities in the sides of banks in great esteem as positions for nesting-sites. Thus the banks along the inner sides of the paths which intersect the sholah in all directions are most favourable spots to search, and yielded three nests containing eggs, all in convenient positions for photography. April, by the way, is the best month in which to



IRRAWADDY LAUGHING THRU SH
(*Dicaeops evermanni*)



SOUTHERN REDWHISKERED BULBUL
(*Pycnonotus cafer*)



WHITE SPOTTED TAIL FLYCATCHER
(*Actinopium*)



NILGIRI BLUE WARBLER
Troglodytes nilgiriensis



WHITE-SPOTTED FANTAIL FLYCATCHER
Actinopygia leucophaea

look for fresh eggs. The details of the three nests were as follows :—No. 1, found early in April, contained two fresh eggs. This nest was destroyed. No. 2, found April 20th, contained three fresh eggs. No. 3, found April 28th, contained three eggs which I took, and which turned out to be in a fairly advanced state of incubation.

The second of these nests had close to it some small roots projecting from the bank side, and I counted on the bird alighting on one of these before hopping into the nest, which was almost completely out of sight in a pretty deep, and hence dark, cavity well protected by a number of thin hanging roots. To photograph the bird on the nest with any chance of success would have been impossible without completely removing and altering the whole surroundings, an action which in all probability would also have caused desertion.

The day following the discovery of this nest, that is on April 21st, I put up the tent on the opposite side of the path, and focussed the camera on the exposed roots. Fortunately my wife had come out with me, and after shutting me up had retired round an adjacent corner to write letters. Within five minutes I heard the Flycatchers singing lustily within a few feet of the rear of the tent, and next moment a whirr of wings over the top proclaimed the fact that one of them was coming to the nest, and to my extreme annoyance come to the nest it did, my roots being given a complete go-by, as she—it turned out to be the female—flew without stopping outside straight into the cavity and settled down on the eggs. The male, after singing for a little longer close by, flew off, evidently quite satisfied that all was in order. Now what was to be done? If I shoed her off it might make her too frightened to come back, and even if she did reappear, she would in all probability go straight in again. I therefore started talking ;

first in a subdued voice and then loudly, until I felt that a sudden shout would not startle her too much. She sat on quite contentedly under this treatment and did not even depart when I shouted as hard as I could to my wife to come to the rescue. I had with me a small watch of the folding travelling variety about two and half inches square and this my wife laid over the egg cavity and again took her departure.

Within a very few minutes the female was back, flying straight in as before. For a moment she stood still on the edge of the nest, then she began to peck at the watch all round, and finally tried to scratch it off and to force her way underneath it. With such frenzy did she persevere that I became alarmed for the safety of the eggs. After a space, however, she quietened down and I expected her to fly out and at last make use of the roots as a resting place while she thought matters out. But not a bit of it; instead, she sat down on the top of the watch and remained there until my patience gave out. A fact worthy of record, by the way, and one which provides much food for thought, is that while she was frenziedly scratching away, she was singing continuously. Again I had to appeal to my wife and this time the whole cavity was stuffed with bracken, but this too turned out no good, as the mother hovered about outside it like a humming bird, eventually worming her way into a hole in the bracken and sitting only half in sight of the lens. Thus a third time I was obliged to call to my long-suffering memsahib, and success was at last achieved by pushing in a little stick by the side of the bracken. On this the female had the decency to alight repeatedly with the result that a number of plates were soon exposed. After the fifth exposure, however, I inadvertently bumped the camera while she was on the perch, causing the lens to shift a trifle. Immediately away she flew and it was some twenty minutes before she dared return.

Noise she could put up with, but the moment something moved as well, suspicion of the hide invaded her.

Unfortunately Longwood Sholah is a gloomy place at any time, and the negatives obtained on this occasion were all under-exposed. The slowest exposure I dared attempt was $\frac{1}{10}$ th sec. at F5.4 and this I expected to be quite sufficient, as, though the bird itself was in shadow, there was a bright patch of sunlight only about 10 yards away.

A few days later I again tried my luck on No. 3, and profiting by the experience gained in the above episode, I blocked up the entrance to the nest before ensconcing myself within the hide. To provide a perch was unnecessary, I'm glad to say, as I do not like introducing anything extraneous into the picture, but always endeavour to depict both birds and their nests as they are naturally. This time I had no difficulty except with the light. Although I gave as long exposures as the bird would permit, that is, I attempted exposures of $\frac{1}{3}$ rd sec. at F5.4, these negatives too show distinct signs of under-exposure, mainly traceable to the fact that my ultra-rapid plates had come to an end and I had had to revert to ones of slower speed. This exposure would I think have been just about right with the Iso-zenith plates, and I was sorry I had not had the courage to attempt it in the first place, as even allowing for errors of judgment, I think I could certainly have counted on a couple of the negatives not showing movement.

On emerging from the tent after finishing with the first of these Blue Flycatchers, I found my searcher awaiting me with news of a nest containing two eggs quite new to him. It transpired to be that of a Rufous-bellied Shortwing (*Brachypteryx major major*) a bird with which I too had never before met. It was only about 100 yards away from my tent, being on the lower side of the path in a cavity in a tree trunk at the edge of a tiny

glade through which flowed a small stream. All round this open patch the wood was particularly thick, rendering this a quite secluded spot although in reality the path ran within thirty yards of it. The nest was about 4 ft. from the ground and consisted exclusively of a pad of moss completely filling the hole in which it was placed. This pad was lined with a few fine roots. The eggs were narrow elongated ovals so densely marked that they appeared to be an almost uniform dark olive green. I did not see the bird until the next day when I took the tent and tried for photographs of her. She was about the size of a Nilgiri Blue Flycatcher, slaty-blue above and on the breast and pale chestnut below. In fact she was not unlike a Tickell's Blue Flycatcher for which I at first sight mistook her. She was very shy and half an hour elapsed before she put in an appearance. Unfortunately she made off at once, as she undoubtedly caught sight of my eye looking at her through a badly camouflaged peep-hole. Another hour elapsed before she ventured to come a second time and then she flew straight into the nest cavity. I tried one long time exposure but it shows little more than the top half of her head, so it is not a particularly interesting photograph.

There are two other Flycatchers which are common in the sholah, namely, the Grey-headed Flycatcher (*Culicicapa c. ceylonensis*) and the extraordinary little Black and Orange Flycatcher (*Ochromela nigrorufa*). I had not the good fortune to find a nest of the former, but two Black and Orange Flycatchers' nests fell to my lot; one on June 8th, 1924, the other on July 18th, 1925. Both contained two newly-hatched young ones. As can be seen from the plate, the nidification of this Flycatcher, which is peculiar to the hills of Southern India, by the way, is quite unlike anything one would expect of any member of the family. These two nests were in identically similar situations, both being close to the main



BLACK AND ORANGE FLYCATCHER
(*Ochromela nigrorufa*)



RUFOUS-BELLIED SHRIKING
Budytes macrolophus



INDIAN WHITE EYE
Zosterops lateralis

path through the sholah, both about 2½ ft. from the ground, and both occupying the entire top of short straight-stemmed large-leaved plants—a common feature of the sholah's undergrowth.

The photograph of the 1924 nest shown here might just as well be that of the other one. The nests were composed very largely of dead leaves and ferns brought together in a loose rather untidy way to form a more or less domed structure some six or eight inches in width and a little more than this in depth. The core and lining consisted of coarse grass. Though the parent birds were very tame, fussing around within a couple of yards of me while I was examining their handiwork, in neither case did I attempt their photography, mainly on account of the excessive darkness of the locality—they both chose very shaded spots—, but also on account of the great amount of orange in their colouration with which the plates I had could not possibly have coped.

Since writing the above paragraph, I have had occasion to examine a further six nests of this species in sholahs on the Palni Hills, where it seemed to me to be the commonest Flycatcher in the woods. These nests, which I found late in April and in May, all contained young ones, never more than two, and were mostly of small dimensions, being about four inches across and six inches in length, made of coarse grass or withered attenuated leaves of various weedy plants. All were in very shaded situations, three anchored in ferns where a number of fronds crossed, one in gorse and two in other bushes. One and all were within a couple of feet or less of the ground.

The really common birds of the sholah are those I mentioned at the beginning of the chapter and also one other, the Nilgiri Laughing-Thrush (*Trochalopteron cachinnans cachinnans*). Small Green Barbets' (*Thereiceryx viridis*) nesting holes were commonly met with, and as late as the 22nd June, I watched one feeding a

nestful of young ones. There must have been many Black Bulbuls' nests too but I failed to spot any. Much more interesting in my opinion than either of these birds were the White-eyes, (*Zosterops palpebrosa palpebrosa*), numbers of whose nests I took in the sholah, almost always in the same type of situation and always of precisely the same construction. Without exception they were built as shown in the plate, being very flimsy moss cradles as a rule with no lining of any kind. I wish I knew the name of this moss. It seemed to consist of long wisps with little cross-strands off it—in appearance not unlike Mr. Heath-Robinson's frayed string! The walls of the nests were therefore exceedingly thin, nevertheless by no means weak. I have seen a number of nests taken from the hill-gooseberry bushes. In these cases they were very different, being not unlike English Chaffinches' nests, as they were constructed of some woolly kind of vegetable matter, and consequently had thick walls besides being normal cup-shaped structures often placed on, rather than suspended from, a fork.

The Nilgiri Blackbird (*Turdus merula simillimus*), though frequently met with in the sholah, is commonest without its limits, haunting in large numbers the orchards, gardens and smaller more open sholahs. Of six clutches brought me, two were procured in Longwood Sholah, the other four from nests in orchards well within the limits of Kotagiri itself. Two nests I took myself were also in pear trees. Of these eight nests, six contained but two eggs, one three, and the eighth, found empty on the 9th July, contained one egg on the day of my departure, July 14th. Of the clutches of two eggs, three were fresh, two showed very distinct signs of incubation and one was addled, the nest obviously having been deserted when incubation was far advanced. I therefore think that two eggs only are often laid, and that it would be more accurate to say that this bird lays from two

to five eggs and not three to five as the *Fauna* (2nd Edition) has it. In Hume's *Nests and Eggs* there is a record of a nest containing a single young one.

The loud call of the Nilgiri Laughing-Thrush is quite a feature of the Longwood Sholah. As a rule, Laughing-Thrushes are put down as shy birds, though it is admitted that they become very much bolder when they have either eggs or young. Yet one of the only two cases I know of, where a bird has really not seemed to mind a scrap about my presence, was in that of a Nilgiri Laughing-Thrush. This bird was only building, yet it came to the nest while I was erecting the tent late in the evening with the intention of photographing it the following morning, my idea being that it would be advisable to give the birds a chance of getting used to the hide during the night, as otherwise they might fear the structure and refuse to come near for hours of valuable daylight, since birds often do not appear greatly attached to their homes until after the eggs have been deposited. As, however, it was then too late for photography, I went on with the erection of the hide, while the bird remained on its half-finished collection of moss, although I was working in full view and within 8 or 9 feet of it.

The next morning there were no signs of either of the birds until I had been in the tent for upwards of half an hour. Then, however, one of them arrived, incidentally without any fresh material, sat in the still untidy nest and commenced to shape the egg cavity with its breast, by turning round and round as it sat. It was in the midst of this process when I took the first photograph. After a time it suddenly gave forth a few piercing yells in answer to its mate and then settled down for a short sleep. Perhaps to talk of this bird's call as a 'crow' rather than a 'yell' would be the more accurate, as, in order to produce the noise, it raised its head

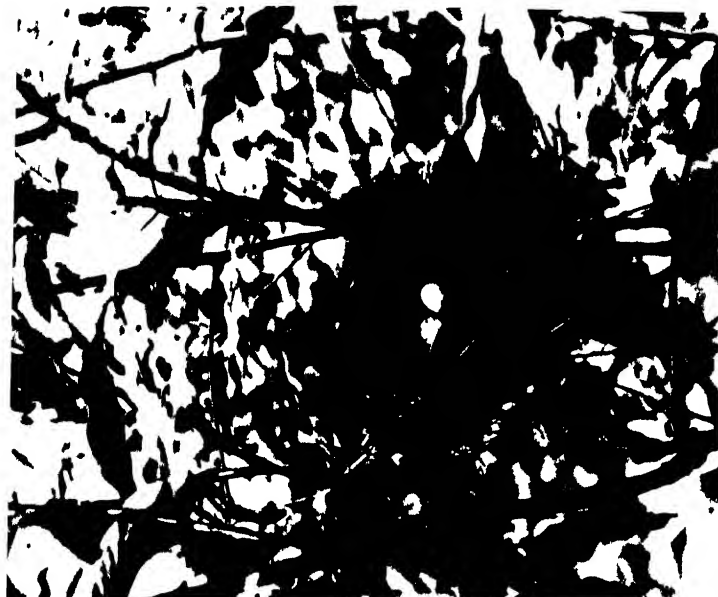
high in the air, puffed out its chest and opened wide its bill, assuming thereby a very cock-like stance. Unfortunately I was unable to photograph it in this attitude, as it was in such a position that one of the supporting branches of the nest was directly between it and the lens. After I had taken a number of photos, I pulled aside the front flap of the tent, and lo and behold the bird still sat on, and it was only when I emerged completely that it took it into its head to quit. It is, of course, altogether fallacious to conclude that because one bird is fearless, others of the same species will be equally so. This is emphatically not the case, and I had sat in front of another Nilgiri Laughing-Thrush's nest but a few days previously for a couple of hours before the female, who had been sitting for some days on two eggs, picked up enough courage to return, and I am convinced that she would not have faced the camera at all, had it not been for the advent of a heavy rain-storm. She obviously objected to her treasures getting wet. The resultant photos of this bird are in consequence somewhat peculiar, as the light is strongly reflected from the many raindrops which cover her back and tail.

I find that according to the *Fauna* (both 1st and 2nd editions) and Hume's *Nests and Eggs*, the breeding season of this bird is from February to the end of June. Of the five nests I found at Kotagiri in 1924 and 1925, however, two were well outside these limits. One, the one I photographed in 1924, was only being built on July 10th, and was still by no means complete on the 14th when I left. The other I found on July 20th, 1925, in the top of a tree-fern overhanging a small stream near Kota Hall. It contained two quite fresh eggs.

I feel that I simply cannot leave the Laughing-Thrushes without reference to a member of the family which by rights has no place here as its distribution is limited to the Palnis and other



SOUTHERN JUNGLE CROW
(*Corvus leucallanti culminatus*)



NIHORI TAUCHING THRU SH
D. aff. gl. in. r. m. n.



CINION REDVAINED TUTTUT
CM. l. p. 605. aff. r. 107

ranges to the South of the Nilgiri Hills. I am speaking of the Travancore Laughing-Thrush (*Trochalopteron jerdoni fairbanki*). There is a terrible dearth of information about many of these South Indian birds; consequently the *Fauna* has been led into stating that this bird differs in habits in no way from the Nilgiri bird. This is not the case. For one thing the Travancore bird prefers open jungle and bush-dotted hillsides to the deeper sholahs. It is cautious certainly but very far from shy and inhabits every garden and hedge-row within Kodaikanal itself. Unfortunately I have had no chance of meeting with it elsewhere except in the Palnis. Its nidification too is different. Out of eight nests found by me around Kodaikanal but one contained more than a trace of moss, ninety per cent or more of the materials being coarse grass and a few bracken leaves with an inner lining of slightly finer grass. This compact nest is placed either in the dense part of a bush or in thick bracken which clothes many of the hill-sides on the summits of the Palni Hills.

A common bird in and around Kotagiri, and in fact all over the hills of the western half of India, is the pretty little White-spotted Fantail Flycatcher (*Leucocerca pectoralis*). Unfortunately though it does possess quite a pleasing whistle, it lacks the tune-fulness of the song of its near relative the White-browed Fantail Flycatcher. This species seems as a rule to confine its choice of building site to positions very low down, at times nests being scarcely eighteen inches from the ground, though the usual elevation is generally between three and five feet. Around Kotagiri I have taken many nests in apple and pear trees and also in creepers, a favourite spot in the latter being on a more or less horizontal strand crossing the hollow space formed by the creeper drooping over the sides of a bush. These birds seem to suffer setbacks in their domestic life almost as much as do the Bulbuls.

Towards the end of June 1924 I had three nests under observation at the same time and was merely waiting for the completion of nest-building in the one case and the laying of the complete clutch of three eggs in that of the other two. The first was amongst the lower branches of a coffee shrub, and close to the ground ; another in a bunch of creeper ; and the third at the extremity of a thin twig of an apple tree, both of the latter at an elevation of perhaps two and a half or three feet. These last came to grief after the laying of the second egg. The eggs of the one in the creeper were in all probability sucked by a lizard or a mouse, as all I could find was a small dry piece of shell directly beneath an undamaged nest. The apple tree nest probably had the eggs bounced out of it by a thieving Crow, which I am sure learnt of the nest by the absurd action of the fussy little Fly-catchers who swooped and swore at every Crow or other intruder which alighted anywhere near. The weight of a Crow, attempting to pitch on the frail branch supporting the nest, would have been fatal to its contents, and, when I came along after witnessing the mobbing of the said Crow, beneath the nest were two broken eggs, their contents still soaking into the grass. This pair commenced another edifice a couple of days later in an isolated apple tree some fifty yards from the scene of their recent bereavement, but this had its lining pulled out just when it looked complete, incidentally only eight days after their first loss. However, it is the nest in the coffee shrub which chiefly concerns us here.

The coffee patch was but a small one, some fifty yards long, varying from only ten to about thirty yards wide. Hearing a pair of these highly energetic Fantails making the unmistakable fuss, consisting of harsh squeaks interposed with occasional little whistles, which augured the presence of a nest, I went down and hunted through the plantation from end to end, the search

resulting in the discovery of three, the first of which was under construction, the other two obviously being earlier efforts. The state of this nest gave one a very fair idea of the method of construction. A rupee placed on top would have more than covered it, nevertheless it was a perfect replica of the finished article, and its symmetry was faultless. I imagined it was a finished but abnormally small one, but on both occasions on which I visited it during the next five days, it had grown very perceptibly in size but showed no difference in other respects.

On the tenth day I took along with me the half-plate camera and the hide, and was relieved to find that two eggs had at last been laid. The place was gloomy, as coffee is always grown in the shade of larger trees, and these bushes were very closely planted with the result that their usual umbrella shape rendered the gloom around the nest doubly intense. On this account it was evident that time exposures would be required. I therefore wished to allay the fears of the nest-owners as much as possible, hence having erected the tent I started to camouflage it with great care.

While my wife was amusing herself covering the top and sides with her usual success, I crawled round to the front to tie the flap round the lens of the camera, and to complete matters generally. I had to look out what I was doing with my nether appendages, as a kneeling position in front of the tent brought my feet very close to the nest indeed. Having fixed the lens to my satisfaction, I glanced over my shoulder to make certain that the camera was pointing in approximately the right direction. Imagine my surprise to behold the Flycatcher reposing quite calmly on its nest, eyeing without the least concern the soles of my shoes at a range of scarcely a foot. I can hardly see myself reclining at ease directly behind the recumbent form of a prehistoric monster, which is the best analogy I can think of. However, without further delay I

got inside the tent, and having waited a little to let her settle down, I exposed five plates one after the other. I may be quite wrong, incidentally, in saying *her*, as half way through the proceedings the two of them changed places, showing that both birds take part in incubation.

Unfortunately there were factors I had not taken into account. Time exposures appeared to be out of the question. Firstly, because the bird would not condescend to keep its head still; secondly, because the wind was gently swaying the nest almost continuously. However, by a series of short exposures on each plate I succeeded in attaining my object. But, low be it spoken, I had made one great mistake. I was too close with the result that the abnormally large and interesting tail of the sitting bird is out of focus. Of course, in this case it was a mistake difficult to avoid, as to get away to a suitable distance and yet retain a sufficiently clear view of the nest was almost impossible, especially as I had no wish to damage the coffee bushes.

Although the Fantail Flycatchers are certainly common around Kotagiri, there are four other birds which are much more so. I have never been able to make up my mind, in fact, which is the commonest, partly I suppose because each one has different habits and consequently is predominant in its particular surroundings. These four birds are the Southern Indian Stone-Chat (*Saxicola caprata atrata*), the Southern Red-whiskered Bulbul, the Ceylon Wren-Warbler (*Prinia inornata jerdoni*), and the Ashy Wren-Warbler (*Prinia socialis socialis*).

While on the subject of common birds, I might make mention of the fact that a bird which a very few years ago was unknown on the top of the Nilgiris, can now be reckoned among the common birds of the edge of the plateau at any rate. This is our old friend the Common Indian House-Crow (*Corvus splendens*



SOUTHERN GREY TIT
(*Larus argentatus michrathyrus*)



CEYLON HOOPOE
(*Upupa epops ceylon*)

splendens), which in such places as Coonoor and Kotagiri is now almost as numerous as the Southern Jungle-Crow. Another bird, which is not usually counted among the common Nilgiri birds, but which I find very numerous in both the above places, especially so all around Kotagiri and overlooking the Mysore Ditch, is the Ceylon Red-vented Bulbul (*Molpastes cafer cafer*). It is however absent, I believe, from the vicinity of Ootacamund and the Kundahs. Whether the House-Crow has yet penetrated to Ooty I do not know, as I have not been there for some years and then only on one occasion at Christmas, but if not, I am certain it will not be long before it does so.

In April large numbers of both the above-mentioned Wren-Warblers were breeding. The majority, however, were in the early stages, and even towards the end of the month in one patch of tall weeds which I searched pretty thoroughly, out of three nests of the Ashy Wren-Warbler and four of the other, only one of each contained eggs. One of the Ceylon Wren-Warblers' nests was in a wild gooseberry bush and was domed, while those in the straight-stemmed weeds were all purse-shaped. The Ashy Wren-Warblers' nests were of the type which is constructed by cemented-together scraps of grass fibre, vegetable down, etc. The other two types of nest, which are described in the new *Fauna* as being built by this species, I also took in the Nilgiris. The loosely-woven grass nests often seem to be constructed in thick weed or grass, and, where the nest is built in a large-leaved plant, the Tailor-bird type of nest is made. In fact, I have always been inclined towards the opinion that there are in reality but two types of nest, these two being the roughly woven affair, somewhat resembling that put together by the Indian Wren-Warbler, and what might be termed the scrap nest, but, where these nests are constructed in large-leaved plants, the leaves are conveniently incorporated in

the structure and at times render a great saving in other materials possible. If the nest happens to be built in a spot where there are even small leaves, those leaves contiguous to the nest will always be found sewn to its sides, often making a structure which is practically speaking midway between the leaf nest and the other. In other words the nests largely depend on what they are built in, and probably differ mainly on this account. It would be interesting to see if each pair sticks exclusively to one type of nest. Personally I do not think that this will be found to be the case. I am of opinion that a bird can and will vary its type of nest to accord with the situation chosen, and will not necessarily favour one kind of site in order that it may always build the same description of nest. Unfortunately I have never had a chance of elucidating these points, and the above is, I fear, mere conjecture.

The particular bird depicted here in the plate of the Ceylon Wren-Warbler evidently disliked the look of the lens, and, though it visited the nest a goodly number of times during the morning, I was only able to expose three plates on it. It had not really settled down to incubation, the third egg having been deposited only that morning, so it was content with an occasional glimpse of its possessions just to see that all was well, and these glimpses it usually contrived to obtain by working its way up to the nest from directly behind, sneaking through the weeds till it got right up without ever having come out into the full view of the lens. It would then cling to the back of the nest and peer through the thin wall at the eggs within.

The episode of the Nilgiri Blue Flycatcher reminds me of another instance illustrative of the general attitude of birds towards noise and movement. It concerns a pair of Ceylon Hoopoes (*Upupa epops ceylonensis*) whose nest was also in Kotagiri not far from the hotel in which we were staying, and in front of which I placed the hiding

tent to obtain photographs of the male bringing food for the young ones which the nest contained. I had found the nest some days earlier, on April 6th to be exact, when it still contained eggs. The strong-smelling scattered collection of refuse which they presumed to call a nest was in a stone wall some fifty yards above a road. After I had used up four plates on the male bird, who was engaged in bringing food to its mate,—who, I discovered, was sitting on three eggs as well as on two newly-hatched babies—my wife called up to me to say that she was going home, as she was unable to discover a shady spot in which to sit. Although at that moment the female was within and the male actually on the ground but a few feet from the tent, I shouted down to my wife telling her what my intentions were as soon as I had finished; and the illustration here was actually taken in the midst of the conversation, as our friend took not the slightest notice of my voice, but paddled up as usual to the nest-hole, inviting his spouse the while to come and take the fat grub he held for her in the tip of his bill. The male Hoopoe is a good husband, and certainly works hard for his living, as his lady seldom leaves the nest once she has started laying until the young have been hatched some time. As this one came flying to the nest, he always uttered a series of not unsnipe-like '*penches*', and when at the hole invariably talked to his wife in a subdued rapidly-repeated sort of '*coo*'.

The Hoopoe is, of course, far from being a man-fearing creature, but even so I am perfectly certain that no Hoopoe would enter its nest with a man sitting but five or six feet away, without, at any rate, an enormous amount of tuition first. I am all the more convinced, therefore, that as a general rule birds cannot and will not believe that real danger is to be apprehended when they can only hear, but cannot see, anything of which to be afraid. They seem, in fact, to lack all powers of deduction. A few of the

smaller birds, and with a decrease in size a corresponding increase in fool-hardiness appears to be the rule, can be got with but little expenditure of patience used to the idea of coming to the nest with one close by. In my school-days I well remember an incident when photographing the abode of a Spotted Flycatcher. The pair concerned had nested in the ivy on the wall near my study window for some years and were quite at home with the genus school-boy. While I was focussing with my head under the cloth, one of the birds landed on the top of the camera and flew thence straight on to the nest, where it sat quite unperturbed during the remaining operations.

The photograph of the Southern Grey-Tit (*Parus major mahrattarum*) here depicted was taken about 30 yards from a garage in front of which a car was being washed, but here too I made use of the hiding tent—though without troubling greatly about concealment—as even a cheeky little Tit is apt to differentiate between 5 or 6 and 100 feet, though why goodness only knows, as it is just as easy for it to be spotted entering its nest at the longer distance as it is at the shorter.





LITTLE BITTERN
(*Ixobrychus exilis*)

CHAPTER VI

TWO KASHMIR LAKES

It would give me a great deal of satisfaction to be able to describe adequately my thoughts and feelings whenever I find myself on the clear placid waters of the Dal Lake. Those lotus-covered reaches, interspersed with patches of tall and swaying reeds with their background of slender poplars surrounding the chalet-like cottages, the whole dominated by the towering forest-clad heights culminating in snow-capped Haramouk, fill the heart of the most casual visitor with admiration for their beauty, grandeur and peacefulness. But in me the emotions are additionally intensified by the pulsating life all around one. The strange cat-like mewling of the Pheasant-tailed Jacanas ; the chizacking noisy Reed-Warblers, and the plaintive bubbling voice of the Little Grebe from the rushes hard by ; the wheeling graceful Terns and the slow beat of a Heron's wings as it majestically sails over the green-carpeted water towards its haven in the giant trees of the Shalimar Bagh : all these, combined with that subtle atmosphere of peace and rest which the Kashmir lakes seem to engender, serve to make one feel at peace with all men, and nature too. Those motionless fishermen, still as statues, standing or kneeling in the prows of their quaint shikaras with uplifted trident ready to make a lightning and unerring thrust into the limpid depths at any unsuspecting fish which may venture within their range—what patience they possess. They too add to the calm tranquility of the whole and seem the very personification of the spirit of Kashmir.

Immediately on passing through the Dal Gate certain birds claim one's instant attention. Of these, first and foremost comes the beautiful little Central Asian Kingfisher (*Alcedo atthis pallasii*), which, practically identical with that seen more or less sparingly in England, is excessively common throughout the happy valley, and, almost before one is through the gate, is certain to be seen sitting on the prow of a house-boat, on a drooping reed, or on a branch of one of the small willows with which the canal banks are lined, every now and then bobbing its head in a most curious manner, as if possessed of terrible indigestion, and no wonder if this really is so, since they insist on swallowing at a gulp fish half as long as themselves.

The Indian Great Reed-Warbler (*Acrocephalus stentoreus brunnescens*) is to be heard rather than seen, as its loud hoarse chattering, proceeding from every reed-bed, is a striking feature of these jhils. The bird itself is rather a retiring creature, though less so than most species of Reed-Warbler, and spends much of its time creeping up and down the rushes in search of insects, occasionally ascending into a tree for the same purpose or to give vent to quite a pleasing little song.

As soon as the reeds have attained to a convenient height, building operations are begun—this is usually about the beginning of May. The nest, a very deep cup to prevent the eggs being tipped out when the reeds are swaying excessively, is suspended between three or four reeds about 2 to 4 feet above the water. The eggs, up to 4 in number, are green or grey, fairly thickly spotted and blotched with varying shades of grey, red and purple.

I have said above that this bird is rather timid. I have found, however, that birds of the same species often vary enormously in temperament and this Reed-Warbler is no exception. I was once inspecting the contents of a nest—3 eggs—and actually had my

fingers resting on one side of it, when the owner, protesting loudly, pitched on the opposite rim and looked down into its nest as if to see what damage I was doing. Of course, as is generally the case, the reflex was not handy and a perfect opportunity was missed. Usually they are content to creep up unseen, and only betray their presence by clamouring loudly a few yards off in the reeds.

The familiar Common Swallow, too, is always to be seen either skimming over the surface of the water or feeding a row of hungry fledgelings seated on a horizontal swaying reed. A Moorhen or a Dabchick will probably swim out from the cover, and then, seemingly surprised at its own unwonted boldness, hurriedly sneak back again, bubbling with satisfaction at having been so brave as to show itself to the outside world.

The Little Bittern (*Ixobrychus minutus minutus*) may here often be observed seated on a bent reed or paddling amongst the lotus. When alarmed, this bird transfers his gaze skywards and there he will sit with long neck and dagger-like bill forming a straight line, looking a perfect moon struck lunatic.

The Central Asian Kingfisher, as a rule, breeds from April to about July¹ in the banks of the canals and rivers and in the sides of the *katcha* wells, digging a hole from two to four feet deep with a round chamber at its end, in which it deposits from five to seven glossy white eggs, very rounded ovals in shape. A Kingfisher's nest containing young ones is as insanitary as a Kashmir village in wet weather, and this, I might explain, is saying a great deal. The passage is floored with a slimy mass of disgorged fish-bones, the odour from which is very far from pleasant; yet the youngsters

¹As a matter of fact, the bird in the photograph was caught in the act of entering its nest-hole at the very end of August and even during the first week in September, I saw two other birds entering holes with food.

emerge from their dark and odiferous cavern as gorgeously arrayed and apparently as spotlessly clean as their parents.

The Common Swallow (*Hirundo rustica rustica*) is an early breeder, and by half-way through June, young birds are to be seen everywhere, though many are still under their parents' care. Their saucer-shaped mud-nests, which are softly lined with feathers, are attached to the rafters and beams of the dwelling houses, with the inmates of which they live on the best of terms. The post-office in Srinagar afforded an excellent example of their partiality for, and fearlessness towards, human beings, as there they used to nest in numbers within the rooms crowded with clerks, flitting in and out of the windows close to one's head while one was being attended to. On Lake Gagrabal, whose water by the way is most extraordinarily clear, I noticed many striated Swallows, probably *Hirundo daurica nepalensis*. These differ in habits from the Common Swallow, in that they build a closed nest with a tubular entrance either in a building or on rocks and cliffs.

The Little Bittern builds from about the end of May a nest of rushes about eight inches to a foot in diameter either on or just above the water. This is anchored amongst the reeds, a few of which are often bent over the nest to form a lattice-work roof. The eggs, three to five in number, are white, rather oval in shape, thick-shelled and chalky.

Having practically come to the end of my leave, and especially wanting photos of a Little Bittern's nest, I decided to spend the morning of June 10th, 1920, searching the reed-beds of the Dal Lake. The day very nearly started with a tragedy. Water was plentiful that year with the result that the current through the gate was like that of a mill-race. A heavy dunga, a country boat, was vainly attempting to force its way through, the crew chanting rhythmically as some pushed with long poles and others pulled on

the chains on the gate wall. The occupants of a shikara, three well-made Kashmiris, also desirous of getting into the lake, were taking advantage of the dunga by pulling themselves along its side. We followed suit. The gap between the dunga's side and the wall was little more than a yard in breadth, and the leading shikara was well in this gap when the current caught the dunga's prow and swept it across with considerable force, thus pinning the frail boat. Something had to happen and it did, very quickly. The shikara was crunched up like a piece of match-wood, and its crumpled remains forced under water, the crew jumping into the dunga in the nick of time, so saving themselves a nasty wetting and possibly worse.

This part of the proceedings was merely highly amusing as evidenced by the glee of the crowd that invariably collects on the road over the gate when a boat is going through; even when the water-level is normal. We, of course, enjoyed the play as much as those above, but it was now our turn to come into the lime-light, and our untimely mirth was cut short by the water-logged remnants of the shikara which suddenly came up underneath us. My half-plate camera took a great objection to the awful list of our boat and fell overboard, but, as luck would have it, I was just in time to grasp the strap and pull it inboard before it had time to get thoroughly wet.

Straight opposite the gate and not 200 yards from it, where the main canal forks, one arm leading direct to that portion of the lake known as the Lokut Dal, the other winding through orchards and vegetable gardens and the picturesque village of Renawari with its massive stone bridge to the Bod Dal and the Nasim and Shalimar Baghs, is a triangular patch of reeds. This I considered too small and too public to yield anything, nevertheless I sent in a man to have a look round, having first explained my usual

scale of rewards. The promise of a few annas is a great incentive to a Kashmiri coolie. In a few minutes he returned with a Moorhen's (*Gallinula chloropus indicus*) egg anxious to know whether this counted, as I had only mentioned large white eggs and small spotted ones. To encourage him I said it did, and duly paid the reward. He was soon back again with an Indian Little Grebe's (*Podiceps ruficollis capensis*). This time I went to investigate personally, thereby somewhat upsetting the equilibrium of a dear old lady in a passing shikara, as I lowered myself into about 4 feet of water with all my clothes on. The result of this performance is shown in the illustration.

That meagre patch of reeds yielded no less than the nests of 3 pairs of Little Grebes, 2 containing 6 eggs, one 3 ; 3 of Little Bitterns, with 2, 2, and 5 eggs ; 1 of Indian Great Reed-Warblers, as yet empty ; and 2 of Moorhens, one with one and the other with two eggs. In a patch on the opposite side of the canal, I obtained the photograph of the Reed-Warbler's nest which is also reproduced here.

Having exhausted the neighbourhood, I was about to move on to the lake itself to look for Pheasant-tailed Jacanas, when another of my minions, whose luck had been out, informed me that he had found a new nest, the reward for which would surely be a large one. What I found was a Reed-Warbler's nest completely filled by, and nearly collapsing under, the weight of two Little Bitterns' eggs, which the scoundrel had filched from a nest close by, which rightfully held three eggs. Curiously enough, another man had tried to play practically the same trick on me a couple of weeks previously by putting a Bittern's egg into a Crow's nest.

Passing along these canals, which wind for the most part through orchards before debouching into the lake, one is likely to



THE ASIAN LILIED TIGER
H. p. p. p. p. p. p.



COMMON COCK
H. p. p. p. p. p. p.



CENTRAL ASIAN KINGFISHER
(*Alcedo atthis pallasii*)

notice the following birds in addition to those so far mentioned—the Indian Oriole and Tickell's Thrush, Rufous-backed Shrike, Hodgson's Pied Wagtail, Eastern Jackdaw, Sind House-Crow, Himalayan Starling, Common Myna, Cashmere House-Sparrow, and the Black-eared Kite. In the evenings and early mornings chiefly, the European Bee-eater, a strong and graceful flier, may be seen floating overhead, drawing attention to itself by its pleasant whistling note, and last but not least that graceful poem, the Himalayan Paradise Flycatcher (*Tchitrea paradisi leucogaster*) will be espied flitting amongst the fruit trees like an undulating mass of snow-white cotton-wool. The head and perky crest of the adult male are a beautiful metallic glossed green or rather greenish-black, almost the entire remaining plumage is pure white, and the two middle tail-feathers are prolonged into slender appendages some 12 to 14 inches long. At rest these hang down in a graceful curve; in flight they wave behind, making the bird appear to ripple through the air.

Before attaining to this amazing perfection, the bird undergoes many changes. On leaving the nest, one might quite well take it for a Bulbul of some sort, as I for one did when I first made its acquaintance in Rajputana soon after my arrival in India, even though armed with that admirable little book for beginners, Mr. Douglas Dewar's *Bird Calendar for Northern India*. At this stage the plumage with the exception of the head and crest, which are glossy black from the outset, is largely chestnut, and the median tail-feathers are not elongated. The female never doffs this garb, and the male not until his second autumn moult, and it is not until he is some four years old that his metamorphosis is complete.

The nest of the Paradise Flycatcher is nearly as beautiful as the bird, being a neatly-woven fairly thin-walled cup of grass

plastered with cobwebs and lichen and lined with hairs. It is placed either in a slender fork or on top of a more or less horizontal branch, usually no great height up and more often than not in a fruit tree. The eggs, up to four in number, are a beautiful pink, sometimes quite salmon, spotted and speckled with red, rather resembling those of the Common Swallow.

All the above-mentioned, with the exception perhaps of the European Bee-eaters, will be found breeding about the end of May. The Indian Orioles (*Oriolus oriolus kundoo*) will be building their basket-like nests in the fruit trees and chenars and even the willows lining the canal banks. The nest is a most interesting structure, and is built as follows. A strip of fresh bark is wound round one limb of a forked branch and carried thence to the other limb. A rough equilateral triangle with about a six-inch side is thus formed. Other strips are then wound on until a cradle is obtained and in this the grass nest is woven. The eggs, two or three in number, are fairly large rather blunt ovals, and are white with a number of either dark red or black spots distributed over the surface. The Oriole, although its nest is generally in a well-protected situation, or even in an inaccessible one—I have spotted nests in the topmost and slenderest branches of giant chenars—is a very light sitter; such a light sitter indeed that one will hardly ever be permitted a glimpse of her at home. The Orioles too possess some fine liquid notes which one cannot fail to remark. A description of the bird is unnecessary, the only other bird which at all resembles it, and one which I have seen not far from Srinagar, being the Black and Yellow Grosbeak which of course is a finch, black-headed and smaller.

The Rufous-backed Shrike (*Lanius schach erythronotus*) literally forces itself on one's attention from the moment the happy

valley is entered. Every few yards a nest will be noticed built against the trunk of one of the poplars which so closely line the main road, and usually about 10 or 12 feet up amongst the cluster of fine twigs and smaller branches which commence about that height from the ground. How many hundreds of these nests, old and new, there must be between Baramullah and Srinagar it is impossible to say. Some day, perhaps, an enthusiast who is really hard up for a job will count them and publish abroad the result of his census. At any rate the Rufous-backed Shrike may be put down as one of the commonest birds of the valley, and, besides frequenting these poplars, is to be found in every orchard and garden and round every village. It is a veritable bird of prey, although its victims are nothing more formidable than grasshoppers and beetles, and occasionally, I believe, though I have never witnessed it myself, a young bird. They are certainly very fierce, and up to mobbing birds much bigger than themselves. They perch a few feet from the ground in a tree or bush and sail down at an angle on to their prey. The extent of their breeding season is considerable and commences about the beginning of May. The nest is rather bulky and often loosely constructed, containing a considerable amount of rubbish, such as dirty rags, bits of paper, leaves, etc. The eggs, 3, 4, or 5, are somewhat larger than one would expect, and are rather pretty, being greenish-white with fairly large spots and sometimes blotches of different shades of red and brown.

Hodgson's Pied Wagtail (*Motacilla alboides*) is quite a confiding bird and often utilizes the roofs of the house-boats or the inside of a rolled-up 'chick' for its nesting site. On one occasion I picked up my boat at Baramullah and was joined as we left by a pair of these Wagtails, which at once commenced building inside a chick intended for the verandah. As the boat

was on the move, they occasionally got left quite a distance behind, as they had perforce to visit the river banks to collect material. At Bandipur they left me, as I am sorry to say the boatman, against orders of course, let down the chick and so destroyed the nest, which was already of quite decent proportions.

From the beginning of May, they breed freely wherever found, other and more usual situations being in cavities in the river and canal banks, under stones and in the masonry of bridges, or in the roots of bushes close to the water's edge, and by halfway through the month I have found many nests containing young ones. The latest date on which I have found a nest with eggs—near Pahlgam in the Liddar Valley—was July 8th, and these, 5 in number, were quite fresh.

The European Hoopoes (*Upupa epops epops*) are early breeders in Kashmir, and by the beginning of June have practically finished operations for the year. Holes at the bases of the walls of the dwelling houses are their favourite abodes, though hollows in trees are also patronized. Like the Kingfishers they too can by no manner of means be congratulated on their sanitation.

Tickell's Thrush (*Turdus unicolor*) is a common bird in the gardens of Srinagar and round about the villages. The nests are like those of the Blackbird at home, and are built in the fork of a bush or tree at anything from four feet or so upwards. They are not conspicuous birds but have a very pretty song and occupy the same position in Kashmir as the Blackbird does at home. Their eggs too are like those of the Blackbird, resembling them very closely indeed though the markings are perhaps redder. They are to be obtained from about the end or possibly halfway through May.

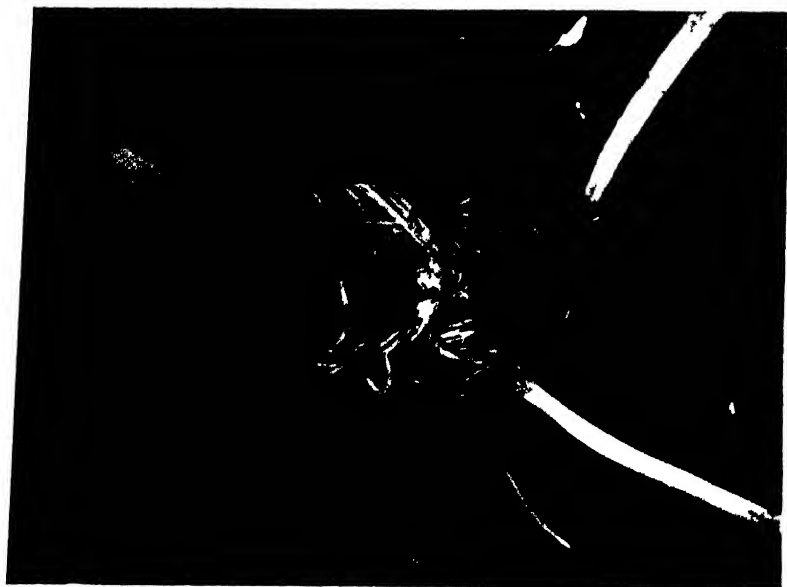
The Eastern Jackdaw (*Corvus monedula saemmeringii*) is another common bird in the valley, and very much outnumbers



INDIAN GREAT REED WARBLER
Acrida trichas trichas



INDIAN LITTLE GREBE
Pelecanus minor



INDIAN GIRL AT RUJDWARDER
by photo of Mrs. J. H. H. H.



THE KASHMIRI RUJDWARDER
by photo of Mrs. J. H. H. H.

the House-Crow. Every chenar of decent proportions holds its quota, as the many holes in these magnificent trees afford most excellent sites for the nests of this species, one tree often containing many pairs. The Jackdaws are also well ahead of the House-Crows in domestic duties and have young out by the end of May, when the latter are but just commencing to build.

In Srinagar a favourite situation for the nests of the Crows is upon the wooden stanchions holding up the projecting upper stories and balconies of the houses overhanging the river. Midway through May I noticed a good many nests being built on the low trees of the small island one passes immediately on entering the Bod Dal, but at the beginning of June they appeared to have got no further on, and I conclude that their eggs must be taken by the Kashmiris.

The Kite of Kashmir, the Black-eared Kite (*Milvus migrans lineatus*), besides being considerably larger than his plain's brother, has very much more pronounced whitish patches on the underside of the wings. Their large untidy stick nests may be noticed high up in the chenars round about the villages, and by May, those eggs which are still to be found, are almost certain to be well incubated. These Kites are arrant baby-snatchers, and the shouts of the Kashmiri womenfolk are continually to be heard during the hours of daylight, attempting to keep them off their chickens and ducklings, often unsuccessfully I fear.

On emerging from the canal into the Bod Dal, one passes through floating gardens and large patches of green and swaying reeds until confronted by a small island bearing an enormous half-dead chenar, in the upper branches of which is generally a Kite's nest. In May the Lotus has hardly made its appearance except in the shallower reaches, and as one glides peacefully past

the isle, a wide stretch of deep blue water suddenly meets the eye, over which may be seen a few Indian Whiskered Terns (*Chlidonias leucopareia indica*) gracefully dipping to the water while uttering their harsh and rasping call. An occasional Night-Heron, perched on a bent reed, or an awkward Little Bittern, may be remarked close to the reed-beds one has just passed through, and a Marsh Harrier (*Circus æruginosus æruginosus*) will probably be descried gliding over the tops of the reeds, every now and then descending into them after its prey. But the strangest bird and the one that will arrest the attention immediately is the Pheasant-tailed Jaçana (*Hydrophasianus chirurgus*). The weird cat-like cries of these peculiar birds alone cannot fail to strike one, but further acquaintance increases one's interest tenfold. The male in breeding plumage with his long black tail-feathers certainly resembles a quaintly coloured cockrel, an unhappily coloured cockrel, the mixture and arrangement of his black, white and yellow plumage being decidedly trying in my opinion.

Many of these birds may be seen, most of them fairly close to the shore or reed patches, but some in the very centre of the lake, apparently walking on the surface of the water. In reality these last are on the weeds which are now just reaching the surface, and the ease with which they progress without sinking is due to the exceptionally long toes with which they are provided, the middle toe of a Pheasant-tailed Jaçana being as much as three inches in length, and the hind toe, the greater part of which is claw, two. The nest of this bird is a mere pad of weeds or rushes varying in scantiness, as evidenced by the photograph reproduced here, in which I failed to discover any materials at all. This nest was on a thick layer of soggy weed, so the owner probably thought, and rightly so, that materials were unnecessary. A

more usual situation is out amongst the lotus leaves, but on this occasion, a backward year, the lotus had hardly made its appearance when I left Kashmir half-way through June. The photograph was actually taken on June 7th. The eggs are as strange as the bird, being flat-topped and tapered to a sharp point at the small end. In colour they vary considerably and I have seen green eggs, clay-coloured eggs, and bronze eggs, and one clutch I took looked just as if they had been painted with gold size and absolutely sparkled. I am afraid I ravished this, the only nest I found that day.

While crossing the lake to where I found this Pheasant-tailed Jaçana's nest, which by the way was not far distant from the entrance of the canal to the Shalimar Bagh, I was very much surprised to come upon an Indian Little Grebe finishing off a nest in the very centre of the lake, literally miles from the shore or any of the reed-beds and absolutely unconcealed in any way, a most strange situation for so shy a bird, though last year on the Ulsoor Tank in the middle of Bangalore, I noticed two nests in the open water a few yards from the bank, alongside which runs a busy thoroughfare. I suppose the lake must have been fairly shallow at this point as the weeds were just reaching the surface over a considerable area, and it was in this patch that the nest was being built.

The Indian Whiskered Terns, which make their nests, untidy pads of weeds and rushes, in colonies on the surface of all the jhils of the valley, have a very hard time of it in the Dal Lake I am afraid, and few, if any, can ever succeed in raising a family. I particularly wanted a photograph, but the nearest I came to finding a nest with the requisite number of eggs in it, was seeing a fisherman collect literally every single egg he could get from the colony I was heading for, and make off before I could

approach close enough to tell him what I thought of his ancestors, himself, and all his offspring. In a few of the nests he had left a single egg, and there must have been at least twenty nests in the colony. I must admit that these eggs are undoubtedly good eating, and I have on occasions abetted these egg-thieves by buying their ill-gotten spoils from them.

A common bird about the main portions of the lake is Hodgson's Yellow-headed Wagtail (*Motacilla citreola calcarata*) though I have not actually found their nests in the Dal, but both this bird and the Kashmir Reed Warbler (*Acrocephalus concinens hokra*), which one may also come across in certain parts of the lake, breed very freely on Hokra and other jhils of a similar type, and in consequence I will describe what I found on a couple of visits to that jhil on June 18th and 21st 1921, in company with a friend who kindly obtained a permit for me along with his own.

I appear to have forgotten all about the spry little Kashmir Grey-Tit (*Parus major caschmiriensis*), a bird rather resembling the Great Tit of the British Isles, both in appearance and habits. I was struck by the numbers of this species exploring the leafy pall of the magnificent chenars of the Nasim Bagh. On the 19th May I took one of their nests in a hole in the bank of a canal leading into the Anchar Lake. I was looking for Kingfishers' nests, and seeing a likely-looking excavation gently pushed a stick down it. I was startled by a violent hiss, which was repeated every time the stick was moved. I thought it must be emitted by a snake, so out of mere curiosity set to work to open up the place, digging downwards from a point which I judged to be directly over the end of the hole. When I got into it, I was more than surprised to see a very angry Grey-Tit with large lumps of fallen earth almost burying it, sitting tightly

on a large pad of wool which completely filled the floor of the chamber I had laid bare.

The defensive attitude of these birds on the nest is somewhat strange. The tail is spread wide into a fan and the head sunk into the soft wall of the nest so that the bill is almost invisible and a pair of very beady black eyes just peep over the rim. The bravery of this particular little heroine was such that she actually allowed me to remove the debris from the nest and her back, only hissing loudly when my fingers came close to her head. She allowed me to fix up the camera with its staring lens but a couple of feet or so from her, and would, I am sure, have let me get all the photos I wanted, had not a sudden gust of wind blown the focussing cloth right off the camera on to her long-suffering head. This proved too much for her nerves and she fluttered out of the hole disclosing 7 red-spotted eggs, which, on immersion in the canal, proved to be quite fresh.

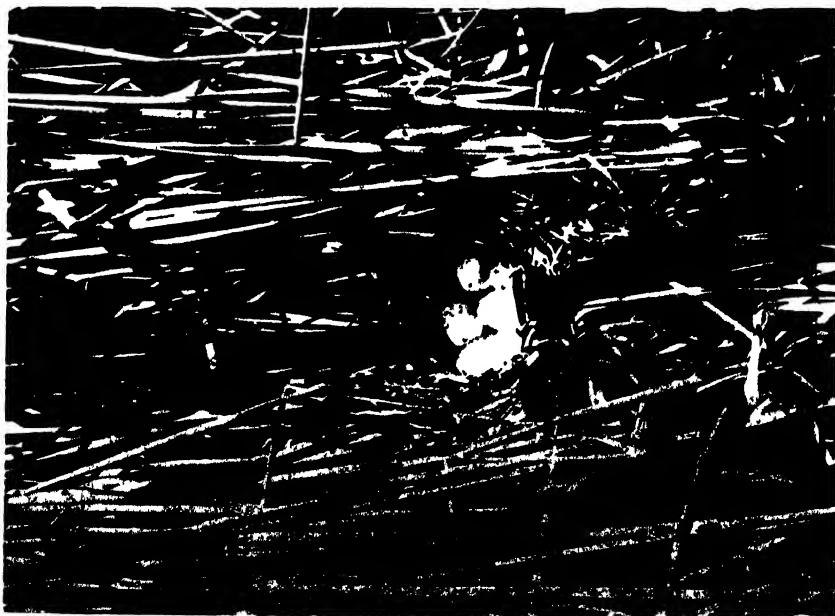
Hokra Jhil is within a few hundred yards of the main Baramullah-Srinagar road opposite Shaltin, but one would certainly never suspect its presence, even if told where it lay, as a low bund lies between, and it is surrounded by rice fields and nearer at hand by a considerable strip of low-lying more or less wet spongy ground, covered with soft grass of varying length interspersed with a few scraggy little bushes, mere prickly stalks a few inches to a few feet in height. It is on this wet ground that from about the commencement of June, Hodgson's Yellow-headed Wagtails may be found breeding in their hundreds. The nest is rarely, if ever, on really dry ground and its base, in fact, is often wet. It is generally a well-built cup of grass placed in the centre of a tuft or at the foot of a bush or even in soft grass of a length barely sufficient to hide the nest, and may contain from three to five eggs. These vary very considerably but all are of a

most decidedly greenish tinge, mottled or streaked with greyish or reddish-brown, many of them rather resembling those of the Grey Wagtail, than which, however, they are slightly bigger and as a rule more oval in shape.

On June 21st I found one nest containing a pair of well-developed young ones, but all the other nests, and we hit upon a good many, still held eggs, a number not even their full quota. A very noticeable feature about the nesting females of this species was the considerable variation in the brightness of their colouration, many of them evidently breeding while still in different stages of immature plumage. One nest was in a patch of reeds which had been cut down to their roots. The ground was so water-logged that the base of the nest was soaking wet and even the lining quite damp. It was dangerous stuff to walk on and swayed perilously, evidently being but a layer of tangled roots floating over deep water.

In places the soft grass attains a length of 3 or even 4 feet and in this and in the slender reeds, which in places grow amongst it, the Kashmir Reed Warblers conceal their nests. These are neat little cups of grass and moss suspended in exactly the same manner as those of the Indian Great Reed-Warbler and are generally very well hidden, as the tangle of soft grass, in which they are usually placed somewhat low down, affords complete concealment from view. They are not really shy; and by patiently watching them from a short distance away, one should be able to mark down the position of a nest to within a few feet, after which a thorough search will do the rest. The eggs of this little Warbler are by no means unlike those of the Great Reed-Warbler, but are smaller, generally more elongate, and less thickly marked.

On June 18th we were only able to find a couple of nests, both of which were still being built, but on the 21st we found another





MALLARD
(*Anas platyrhynchos platyrhynchos*)

containing 3 eggs, the photograph of which is reproduced here. The Kashmir Reed Warbler is very much smaller and also quieter than its strident-voiced cousin; the tail is more graduated and the throat of a deeper rufous tinge.

The Indian Great Reed-Warblers were, of course, breeding here as profusely as elsewhere in the valley, and their harsh grating voices were to be heard emanating from all the coarser reed-beds. Other nesting birds which I have already mentioned as inhabiting the Dal, were Moorhens, Little Grebes, Little Bitterns, Pheasant-tailed Jacanas and Whiskered Terns. Coots also were common. The Coot's nest in the illustration was not actually taken at Hokra, but I include it here as it is interesting on account of the young one, which appeared to me to be in quite a fit state to take to the water. In fact, after procuring the photograph, I put it into that element and it swam off quite strongly into the reeds, where it probably joined its brothers and sisters already in hiding. These youngsters, as a rule, are capable of swimming practically from the moment they are hatched, and at the approach of danger, immediately leave the nest and hide in the surrounding cover. Why this one had not done so I cannot imagine. It will be noticed that another is on the point of emerging from the egg. The hard whitish nob on the tip of the upper mandible can be seen quite plainly.

Hokra, being a State Reserve and so undisturbed by the spring influx of tourists, is a sanctuary where numbers of the shy and more seclusion-loving waterfowl betake themselves, or rather remain, after the spring migration has taken place, and White-eyed Pochard (*Nyroca rufa rufa*) and Mallard (*Anas platyrhynchos*) breed in considerable numbers. I also remember seeing many Teal and a few Wigeon (*Mareca penelope*).

A White-eyed Pochard's nest containing 10 eggs, fairly well advanced in incubation, and surrounded by a goodly quantity of down, was discovered in the centre of a very tangled mass of reeds. The eggs were a very pale *café-au-lait* and had a decidedly satin-like surface, so, nestling amongst their dark-hued padding, they made a most pleasing picture.

Quite close in a most awkward spot to reach, owing to the amount of water and the thickness of the reeds, was a Mallard's nest. This contained a large number of ducklings when first discovered, but all but two of them, and one which still had a considerable portion of the shell attached to its rear end, escaped into the surrounding reeds while I was struggling to reach the nest. Two chipped eggs also remained. The photo I obtained did not quite come up to expectations but is worth reproducing here to show how perfectly the colouration of a duckling can blend with its normal background of reeds, as, though the image in the original negative is perfectly sharp and the head alone the size of a small pea, it is most difficult to pick it out.

One of our chief reasons in obtaining permission to visit Hokra was that we hoped to find the Snipe with eggs, but though we put up a considerable number, we were unsuccessful in our search. The Fantail Snipe (*Capella gallinago gallinago*), and also that fraud so far as shooting is concerned, the Painted Snipe (*Rostratula benghalensis benghalensis*), are both to be found breeding around these more sequestered and marshy jhils with their surrounding area of spongy ground which the Fantails seem especially to seek after in Kashmir, but I think one should look for their nests earlier than towards the end of June, even though they do appear to nest rather later here than is usually the case with this species.

On the 18th, before we had progressed a hundred yards round the edge of the jhil, an Eastern Baillon's Crake (*Porzana pusilla pusilla*), was flushed off its nest of five eggs. These tiny little Rails are very common in Kashmir, and, as they sit very close and often fly straight off the nest, their abodes are not over difficult to find. How these minute birds, the smallest of all our Rails, manage to cover their numerous eggs is beyond me. They lay anything from five to nine and these are decidedly large in proportion to the size of the bird, whose body really cannot be much larger than that of a Sparrow. Yet the average egg measures about 30.5 mm. by 21.6 mm. The nest is composed of a small collection of grass or reeds and is often placed in soft marsh grass, in the grass on the side of a bank, or at the foot of a bush, and resting on more or less solid ground. Possibly more frequently it is anchored over water amongst reeds, a number of which are bent over the eggs into a canopy. In fact, the situations are much the same as those chosen by the Northern Ruddy Crake (*Amaurornis fuscus bakeri*), with the exception perhaps of the first-named and the fact that, whereas the former has a predilection for the vicinity of jhils, the latter appears to shun them.

The latter also breeds commonly in the valley, and on both occasions eggs were brought to us. One enterprising youth brought the female bird also which he had managed to catch on the nest, quite how I do not know. She had an egg in the oviduct which could be easily felt and as easily seen, as they too are decidedly large in proportion to the size of the bird. We let her go, but rather than exercise her wings, she dropped straight on to the water and went swimming off up a side ditch, sneaking along its edge and swimming with the same jerky motions as the Moorhen. The Ruddy Crake does not seem to like the large reed-covered jhils, but shows a great preference for the rice-fields

and the ditches which supply them. Their nests are to be found on the banks which divide the fields, in tangled undergrowth in their vicinity, and also attached to the rice stalks and reeds, a number of which are bent over the nest to form a partial roof, giving to the nest a most pleasing appearance. June is really a little too early to expect to find full clutches, as they are rather late breeders, and it was only well on in July just before I went down from Kashmir that I found nests with their full compliment of eggs.



EASTERN BAIRD'S CRANE
(*Plegadis pusilla pusilla*)



NORTHERN RUDDY DUCK
(*Anas platyrhynchos fuscus*)



CHUKAR
(*Alectoris græca chukar*).

CHAPTER VII

ABOVE THE WULAR

To mention the Wular, Kashmir's largest lake, is to recall to my mind many pleasant days spent in the shelter of the little bay at Kunus under the protection of its Ziarat-surmounted promontory. From here a straggling track ascends the narrow defile to the diminutive but charming Rampur Valley and the Lolab Pass beyond ; the Lolab, that hidden vale far-famed for its walnuts and its village beauties, and at one time for its bears. It was here, so the story goes, that the overkeen sahib, intent on a bear at any price, stalked with ultimate success what he took to be a fine specimen amongst the branches of a mulberry tree, only to find to his horror that he had dislodged an old woman, who was just as keen as bruin on the watery but succulent fruit. A hundred rupees to the village headman and he went on his way, rejoicing at getting out of a horrible situation so lightly. But alas ! his relief was short-lived and his sport entirely ruined. Wherever he went, his fame spread before him, and every mulberry tree, to which he was almost forcibly led, contained at least one of the more aged and garrulous members of a family. However I digress.

The lower slopes of the promontory on the side overlooking the bay are clothed in thorny bushes, and amongst these Hume's Lesser White-throat (*Sylvia althæa*) holds its sway. Towards the end of May many of their nests are to be found containing from three to five eggs, greenish white with a number of both large and small yellowish and reddish-brown spots, usually most numerous around the large end. The nest is rather flimsily constructed of bents and

grass, and is sometimes lined with a scant amount of hair. It is generally fairly well concealed in the heart of the bush and not above two or three feet from the ground.

Higher up and the entire outer side of the promontory consists chiefly of rough grassy slopes with scattered fuzzy bushes and patches of boulders, and this is where large numbers of the White-capped Bunting (*Emberiza stewarti*), and the annoying little Indian Bush-Chat (*Saxicola torquata indica*) are the chief denizens. I say annoying, because it is by no means easy to find the latter's nest. It is often exceptionally well concealed under the overhanging lip of a bank-top, under a stone or in the roots of a bush, and the bird takes good care not to give its position away by visiting it when one is in the vicinity. It is small and well made of moss and grass lined with hair, and three to five small eggs are deposited in it. These are very pretty and are typical chats' eggs, having a delicate blue-green shell with a zone of pale reddish markings. The male is a small black bird with white wing-patches and upper tail coverts suffused with rufous, large white patches on the sides of the neck, an orange-red breast, and a habit of continually flicking the tail. I have always been in the habit of calling it the Indian Stone-Chat, as it somewhat closely resembles the bird one sees in the British Isles.

The White-capped Bunting chooses much the same kind of situation for its home as does the Indian Bush-Chat, but the nest is not as a rule so well concealed, and the bird is much bolder. The nest is more or less the same too, but the eggs are bigger and of course very differently coloured, being of a whitish ground colour thickly spotted and blotched with purple and purplish greys. The Buntings are squat sparrow-like birds, in fact they belong to the finches as do the latter, and they spend most of their time on the ground.

It was on this side of the promontory that a great discovery was made, a shikari pointing out to a friend and myself on May 28th, 1920, a Chukar's (*Alectoris graca chukar*) nest containing the amazing number of 21 eggs. The photograph shows 20, as one unfortunately got broken when the man was first examining them. As the largest number of eggs ever previously recorded is, I believe, 16, it is easy to imagine our surprise. Unfortunately the situation of the nest in a tangle of grass between the faces of a broken boulder, which had been split in two and then forced apart in the course of time, rendered it difficult to obtain photographs, otherwise a much more artistic effort might have been produced.

The resources of my promontory are not yet exhausted. An outcrop of tilted and weather-beaten strata, on which more than one unlucky houseboat has met with disaster when caught in a sudden squal on the treacherous waters of the lake, forms its extremity, and is invariably the home of a pair of Indian Blue Rock-Thrushes (*Monticola solitaria pandoo*). The male in summer has head and shoulders bright blue, and the remainder of his attire deep blue-black. His consort, whose lower plumage is barred after the autumn moult, has now, the end of May, an almost uniform brown plumage, owing to the edges of the feathers having worn down. The eggs are four in number, and are light blue sparingly spotted with red. These markings are often minute and few, and at times entirely absent. The nest is placed on a ledge or in a cleft of the rock. The male has quite a pleasing song. They are never to be found away from the vicinity of their beloved rocks. In the winter they have a very wide range, spreading over the whole of India, but in the spring most migrate to the Himalayas, and even beyond, to breed. On May 31st, 1921, I took here a nest containing four hard-set eggs, only one of which had any

markings on it, and these were but a few very minute specks. Another pair was still only building on June 7th, on a similar promontory a couple of miles away.

Before leaving the spur for good, I must mention that in the sandy banks on the sides of the col joining it with the main hill-mass, the tunnels of those graceful fliers and delightfully-coloured birds, the European Bee-eaters (*Merops apiaster*) will be noticed. I also took here in the bank of a tiny water-course the nest of a Central Asian Kingfisher containing seven eggs.

This brings to a close those birds whose nests one can be certain of finding year in and year out on the promontory itself. Certainly one may find others. I have seen the Brown Rock-Pipit (*Anthus sordidus jerdoni*) on its slopes, and took two nests containing young ones early in June on just such another promontory at Watlab but three miles distant. Hawks and marauding Jungle-Crows I have seen quartering the ground and sneaking around the rocks, but at present the few trees near the Ziarat hold no nest. A stately Eagle, the rather majestic Bearded Vulture, and an occasional vulgar Kite, too, may often be seen prowling round, but these of course have their homes elsewhere, the latter in the tall chenars at the neighbouring village. However, this chapter was primarily intended to be about Rampur and the Lolab, and so far I have hardly mentioned either. We must, therefore, leave the shores of the Wular, and, traversing the village, commence to ascend.

The village of Kunus contains some fine fruit trees as well as great spreading chenars and slender poplars, so I was not surprised, but rather I expected it, when on my way through on June 2nd, 1921, I was led to nests of the Rufous-backed Shrike, Tickell's Thrush, the photographs of which turned out failures, and the Indian Oriole. The last was amongst the upper branches of a tall pear tree.

However, with the aid of much caution, patience, and lots of string—even my shoe-laces had to be pressed into service—with which to tie the camera in position, I succeeded in getting quite a passable negative. A few annas to the discoverers of these nests produced many pleased smiles and also some delicious cherries, so I was able to go on my way feeling my labours had not been in vain.

Within three hundred yards of the village and close to the straggling Rampur track, a nest of the Indian Bush-Chat was revealed snuggling in a small cavity under a stone. The half-plate was produced and an excellent photograph soon obtained.

On this hurried trip (May 30th to June 8th, 1921) with which we are chiefly concerned here, my object was first to camp on a minute little marg perched on the hill-top about a mile and a half north of the summit of the pass into the Lolab. A more charming spot I have never found. On the one side the ground slopes abruptly for about 1,500 ft. to the tiny land-locked Rampur valley, a vale of enormous chenars, walnut, and fruit trees, over whose further boundary a wonderful panorama of the whole happy valley still further below one and of its surrounding mountain ranges is obtained. The slopes on this side are not very thickly wooded. In fact there are few pines and but straggling patches of rhododendrons and other bushes. Though a wonderful prospect to the Pir Panjal themselves is obtained, it is nothing when compared with the surpassing beauty of the view into the Lolab and of the mountains which enclose it, with Nanga Parbat some fifty miles distant yet dominating every intervening range. My little marg, christened on my first visit "The Saddleback", cannot be much more than thirty yards across and on this, the Lolab side, it dips most abruptly in one great sweep of unbroken forest to the hamlet-studded vale beneath, so far beneath that the whole has the appearance of a wonderful landscape painting of tiny green

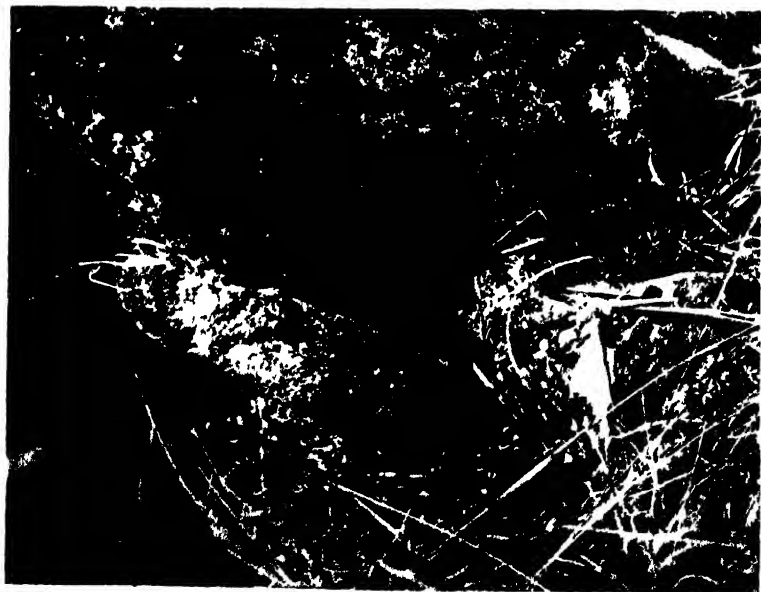
fields, the vivid green of the early rice, and orchards, woods, and villages with silvery streams winding amongst them, occasionally spreading out into little glass-like lakes. The ranges on the northern side of the valley raise their snow-capped heads twenty thousand feet and more into the Heavens, but those on the south are only about eight thousand, and of course have their northern slopes thickly afforested.

On this occasion I was forced to spend the night in the little forest hut at Rajpur, as, shortly before arriving there, a heavy downpour set in. On May 30th in the previous year quite close to this very hut I took the nest of a Western Yellow-billed Magpie (*Urocissa flavirostris cucullata*) containing four eggs. As will be seen from the illustration, it is not very large and not domed. As far as I can remember it was rather loosely built of twigs, and was lined with roots. In fact from the ground—it was not more than ten feet up—one could just make out the eggs through the bottom. This was the first occasion on which I had met with this rather striking bird. In the breeding season I have never seen it below the 6,000-foot level, nor, do I think, does it ascend much above 8,000 feet. It breeds from May to August and is decidedly partial to forest. The eggs are pale cream, profusely marked with red-brown and grey. On the same day I saw another pair building, one of them carrying what looked to me like a large piece of rag to the nest, which was being constructed about 30 feet from the ground.

Leaving the hut early next morning, I passed through some undulating and thickly-wooded country near the edge of the valley to the foot of the Lolab Pass. In this I saw many Kashmir Cinnamon Tree-Sparrows (*Passer rutilans debilis*) and evidence of numerous Kashmir Pied Woodpeckers (*Dryobates himalayensis albescens*). Soon after commencing the ascent of the Pass,



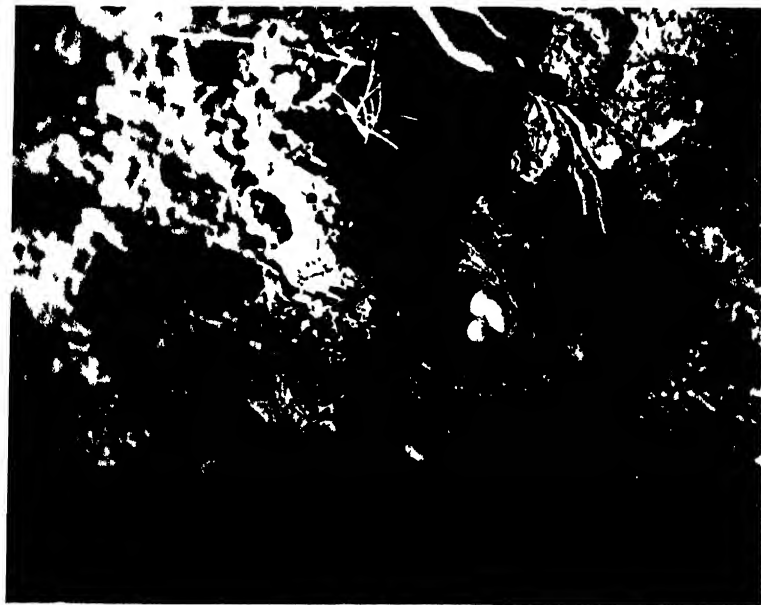
INDIAN BUSH CHAT
(*Savilla trinquata indica*)



WHITE CAPPED BUNTING
(*Emberiza alba*)



WESTERN YELLOW BILLED MAGPIE
(*Urocissa flavovestris cucullata*).



WESTERN SPOTTED FORKTAIL
(*Icterus maculatus maculatus*).

I heard the Himalayan Cuckoos (*Cuculus optatus*) uttering their hoopoe-like notes, and began to meet with Crested Black Tits (*Lophophanes melanolophus*). I also passed about half a dozen nests of the Himalayan Jungle-Crow (*Corvus levaillanti intermedius*), only one of which, at the top of a deodar more easily climbable than the rest, I investigated. It contained but two eggs. This was on June 3rd, yet numbers appeared to be still building.

Having reached the top, I turned off along the hillside to the right, and commenced searching more thoroughly as I went along. I was soon rewarded by my attention being drawn to a Small-billed Mountain Thrush (*Oreocincla dauma dauma*) sitting tightly on its nest under a rotten stump surrounded by wild strawberries. It was in a beautiful situation a few yards down the hill on the Lolab side, and so amongst the thick deodar forest I have alluded to. As usual she sat very close and allowed me to have a really good look at her at a range of only a few feet. It was unfortunately too dark for a photo with the reflex, so I reluctantly shooed her off. Three eggs were displayed. The markings, distributed evenly and entirely all over the surface, were very pale red, paler, I think, than the usual markings of the eggs of this species. The ground colour was greenish-white. They were quite fresh, and the bird could only just have started sitting. Though so brave on the nest, once disturbed she made off straight down the hillside without a sound, and never put in another appearance, although I waited for an hour or so in the vicinity. The nest was made entirely of pine needles. The only other nest of this species, which I have found, was lined with pine needles but had an outer shell of roots.

Both Asiatic and Himalayan Cuckoos (*Cuculus canorus telephonus* and *C. optatus*), in appearance resembling one another

very closely, abounded here, as evidenced by the loud 'cuckoo' of the former and the latter's four hoopoe-like hoots, which are preceded by a very soft and higher pitched 'cuc', only to be heard when one is quite close to the utterer. As a matter of fact when I first heard the Himalayan Cuckoo, I actually mistook the notes for those of a Hoopoe, until it struck me that I was at an elevation where the Hoopoe did not exist, and that the notes were somewhat too loud for the subdued tones of that bird, added to which four were uttered in succession instead of three. It was some time before I was near enough to a bird, which, as it happened, alighted on a branch but a few feet above my head, to hear the initial syllable.

Flycatchers were now very much in evidence, and during the remaining mile or so to camp I saw a pair of Nutcrackers (probably *Nucifraga multipunctata*), fairly large white-spotted brown birds, a pair of Black and Yellow Grosbeaks (*Perissospiza icteroides*) and also a pair of Hobbies (*Falco subbuteo centralasiæ*), the latter dashing about overhead, besides numerous Turtle-Doves (*Streptopelia orientalis meena*), White-cheeked Nuthatches (*Sitta leucopsis leucopsis*) and Crested Black Tits. Occasionally a Griffon Vulture (*Gyps himalayensis*) or a Lämmergeyer (*Gypaëtus barbatus hemachalanus*) sailed slowly past.

While camp was being pitched, I sat on the edge of my glade to admire the view over the Lolab. I soon noticed that a Crested Black Tit kept descending to the ground just behind a deodar a few yards to my right. On examining the ground, I found a small hole amongst the roots. It went down about a foot, and at the bottom was the Tit's nest, containing hefty youngsters. I left them in peace, and turned my attention to a Kashmir Sooty Flycatcher (*Hemichelidon sibirica gulmergi*), which was evidently building in the very next tree. Its half-finished nest was well out

on a horizontal branch about thirty feet or so from the ground, and was practically invisible from below.

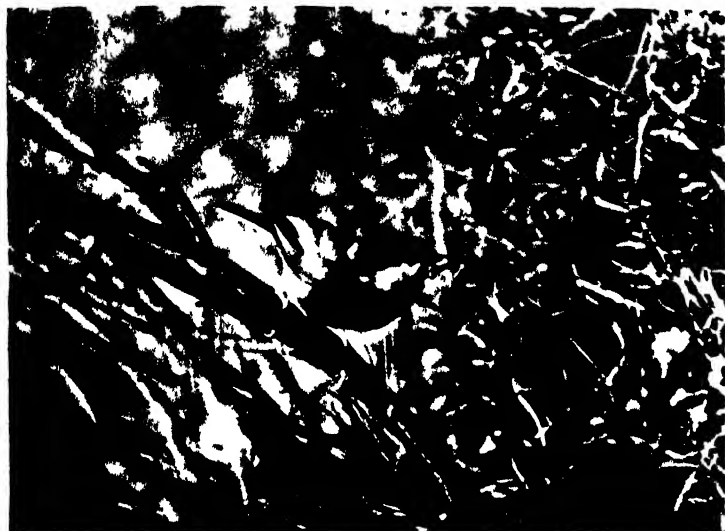
The sun was now setting, and the air consequently rapidly chilling, so the remainder of the evening was spent close to a roaring log fire. As usual I dined in the open, still closer to the fire and muffled up in a heavy coat. At 8,000 ft. in May the nights are far from warm. A hot toddy finished the proceedings and I went to bed, after ejecting the mangled corpse of a Black Scorpion which had taken possession of my tent, well contented and well pleased with quite a successful day spent amongst unrivalled surroundings.

On May 31st of the previous year close to this camp I took the nests of a Himalayan Tree-Creeper (*Certhia himalayana himalayana*), a Crested Black Tit, and a Grey-headed Thrush (*Turdus rubrocanus rubrocanus*), all with eggs. I also noticed a number of nesting-holes of Kashmir Pied Woodpeckers, but all appeared to have young ones, and on the following day I was shown a nest with young ones of the White-throated Tit (*Aegithaliscus niveogularis*). The White-throated Tit's nest was a most interesting find from all points of view. To begin with it is a rare bird, and secondly its nest is a beautiful structure, nearly resembling that of the Long-tailed Tit. It is more or less pear-shaped, covered with moss and lichen, and about 5 inches deep, with the entrance hole placed in the side near the top. This nest was about 7 ft. from the ground, and suspended near the end of a slightly drooping branch of a fir tree, growing almost on the very crest of the hill and consequently catching every breath of wind. Such a knife-edge of a hill-top came in for every scrap of wind there was, and, being so exposed, more often than not half a gale was blowing. The result was that my efforts to procure photographs were not over-fruitful, and the only record I now possess

is a somewhat underexposed negative which gives one a mere silhouette of the nest.

The Himalayan Tree-Creeper's nest was as usual behind a loose flap of bark against the side of a very large deodar. It was about 4 ft. from the ground and contained five eggs. Until recently it seems to have been thought that this bird almost invariably built at a considerable height up, 40 ft. or more. I have noticed many old nests, exposed to view by the loose and rotting bark having fallen away, at from but 2 to 5 or 6 ft. from the ground. The Himalayan Tree-Creeper is a cheery little soul, and at the end of the breeding season—about July—bands of them are to be seen dashing from trunk to trunk, piping shrilly the while. They usually alight close to the ground and work their way upwards in short little runs hunting the crevices for insects. Their tails are used as a rest and with their slender curved bills they probe every little nook and cranny and let not a single luscious morsel escape. Their dark brown and fulvous upper plumage blends extraordinarily well with the bark. The underparts are smoky brown. About 6 eggs are laid in April or May. These are white with a number of red spots mostly at the larger end.

The Crested Black Tit's nest was in very much the same sort of situation. To show the nest and eggs a piece of loose bark had to be removed. Wool and hair had been used almost entirely, and there were six eggs. These too were white with red spots and about the same size as the Tree-Creeper's, possibly a fraction larger. These Tits inhabit forest and well-wooded country, and the situations chosen for nesting purposes are most varied. Holes in trees, in the ground, or in banks are all utilized, nor is a disused Woodpecker's abode despised. The breeding season is from April to June, and the elevation at which the bird lives during this time is from about 6,000 to 9,000 or 10,000 feet. They



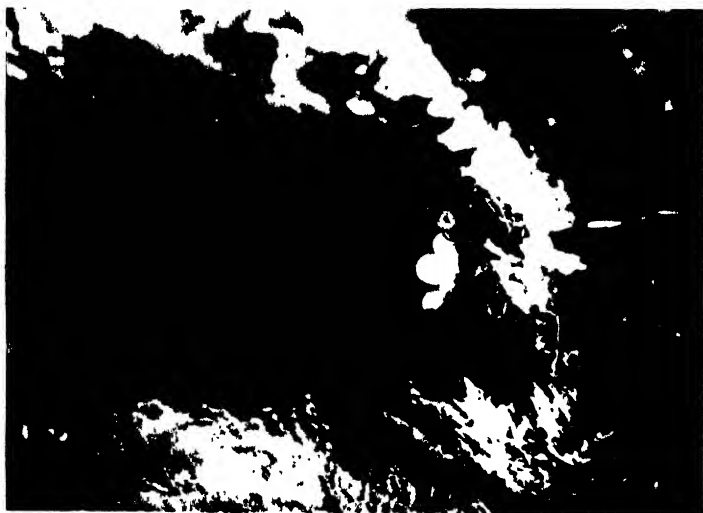
CRESTED BLACK TIT
(*Lophophanes melanolophus*)



INDIAN ORIOLE
(*Oriolus oriolus kandoo*)



GREY-HEADED THRUSH
(*Turdus rubrocanus rubrocanus*).



LARGE CROWNED WILLOW-WARBLER
(*Acanthopneuste occipitalis occipitalis*).

are about the size of Blue Tits, and are black about the head and breast and have a perky black crest. The cheeks are white, and almost the whole of the remainder of the plumage is iron-grey.

A decayed stump, 4 ft. or so in height, was the Grey-headed Thrushes' home. One side had fallen away, disclosing a small shelf floored with rotten shavings, and on this was the nest, a well-built affair of moss, bents, and grass with four eggs in it. Both nest and eggs might have been those of a Ring Ouzel at home. The markings of the eggs of this species, however, are darker and larger than those of an average Ring Ouzel's egg and of a distinct purple hue. Three or four are laid in May or June. They are typical Thrushes in size, shape and habits. The male is largely chestnut with grey head and shoulders and black wings; the female is not so brightly coloured, being much browner. They are exceedingly fussy especially when disturbed with young, and are apt to keep up an incessant cackle when danger threatens. A stump appears to be a very favourite nesting site, and I think that to find a nest on the ground is more or less exceptional, though Oates' Fauna has it that this is the usual situation.

I stayed but one complete day on the Saddleback, and that not a very successful one from the ornithological point of view. I took photos showing the situations of the nests of a White-cheeked Nuthatch and a Kashmir Cinnamon Tree-Sparrow. Both contained young ones. Most Nuthatches, having chosen a convenient hole in a tree, proceed to close it with a sort of mud plaster till it is only just large enough to admit the owners. Sometimes the nest is very difficult to detect, whilst at others the mud entrance forms a sort of cone, which stands out from the bark and is plainly visible from below. The White-cheeked Nuthatch's favourite situation, however, is an unadorned crack in a tree trunk. They are early breeders, and one should

commence looking for their nests at the end of April or beginning of May. The eggs of all species are white marked with red, and the nest generally consists of a collection of shavings and moss or wool.

The Cinnamon Tree-Sparrow takes possession of any hole or crevice in a tree, and constructs its nest in May, June or July of grass, wool and feathers, etc. It is usually an untidy affair containing three to five eggs, in colour white thickly marked with brown.

I next moved my camp to another of my favourite hunting grounds also known by a nickname. The correct appellation of the place, that is of the little village down below, is Imaslwara, but owing to the abnormal number of Cuckoos, both Asiatic and Himalayan, to me it will always be Cuckoo Glade. It is a small horse-shoe depression with very steep sides, the upper slopes of which are pretty bare and inhabited largely by Eastern Meadow-Buntings (*Emberiza cia stracheyi*), on which the Asiatic Cuckoos prey. Lower down a pretty thick scrub-jungle obtains, in which are to be found Crested Black Tits, Kashmir Pied Woodpeckers, Red-breasted Flycatchers, Large Crowned Willow-Warblers, and Laughing-Thrushes, etc. The two latter are the chief victims of the Himalayan Cuckoos. In the bottom of the valley is a considerable amount of ploughed land, interspersed with bushes and clumps of pines. Here I have noticed Minivets, Dark Grey Bush-Chats, Kingcrows, etc., and down by the little stream, which takes its source on the upper slopes, Western Spotted Forktails and Plumbeous Redstarts may be met with.

To reach the glade one had to retrace one's steps to the Lolab Pass and then at right angles to it follow the outer slopes of the heights for three or four miles round the south of the valley. From the Pass, which, by the way, is used by large numbers

of Himalayan Slaty-headed Paroquets (*Psittacula himalayana himalayana*) in transit from the Rampur Valley to the Lolab, my road ran first through lovely glades of pines, and then skirted a wood consisting chiefly of small trees, Hazels I think. It was within the edge of this wood that I made the acquaintance of the Rufous-tailed Flycatcher (*Alseonax ruficaudus*), and, as I thought, of its nest, as in the tree from which it flew was a nest which made one of the prettiest photographs I possess. The sunlight was struggling through the leafy pall above, dappling the nest and its surroundings with little golden patches. The nest itself was a beautiful piece of workmanship, snuggling in a fork ten or so feet from the ground and fabricated from soft mosses and lichen lined with hairs, many of them white. It was as neat as, and in fact very like, that of a Chaffinch, but it contained four white eggs, whereas those of the Rufous-tailed Flycatcher are very pale green with profuse reddish freckles, which as a rule cover the whole egg. As I have not been able to identify these eggs, which unfortunately are no longer in my possession, I have not included the photograph here. The Rufous-tailed Flycatcher is about the size of a Robin. The tail and upper tail-coverts are bright chestnut, the remainder of the upper plumage more or less olive-brown, and the lower parts earthy-brown. The next time I saw one of these little birds was many hundreds of miles distant in its winter quarters at Ootacamund in the Nilgiri Hills, where I spent my Christmas leave.

To obtain photographs of an Eastern Meadow-Bunting's nest containing an egg of the Asiatic Cuckoo was the chief object of my visit to the glade. In this I was unsuccessful. It was certainly getting rather late in the season, but the chief reason was that my coolies mistook my instructions, purposely methinks, and planted my camp in the valley bottom near the village. I

was suffering somewhat from malaria at the time, and so did not feel up to the stiff ascents to the slopes where the Buntings' nests were mostly to be found. On the way down I did come across two nests, but neither held the coveted Cuckoo's egg.

However next morning, June 6th, I received ample compensation for my disappointment. I had only just set out, and as usual, wherever I noticed a likely-looking cavity, I tapped the trunk or branch with my khud stick, and one of the first taps bore fruit. From a tiny hole about $1\frac{1}{2}$ inches in diameter in a hazel stump, out flew a little green bird with yellow eye-stripes and a yellow line running over the crown, a Large Crowned Willow-Warbler (*Acanthopneuste occipitalis occipitalis*). I could just make out the edge of a nest some 7 or 8 inches down. As it could not be reached any other way, I proceeded to open it up. For this very purpose I had had made to my own design a tiny hatchet, a folding saw, and a folding chisel, all of which I carry attached to a clip on my belt. The deed was soon done, and to my delighted gaze five eggs were displayed. Four small and white and one also white, but very much larger and rather long in proportion to its width. The latter was that of a Himalayan Cuckoo. Never for an instant had I expected to find one in a nest so situated. The entrance hole was so small that I feel certain that the Cuckoo could not possibly have entered the cavity. It must have pushed in its head and shoulders, holding the egg in its bill, and then have dropped it into the nest. This is borne out by the fact that one of the Willow-Warbler's eggs was not only cracked but also bad. This egg is plainly visible in the photograph. The other eggs and the Cuckoo's were in a fairly advanced state of incubation. The nest was made chiefly of moss and had been lined with one or two leaves and goats' hair.

The Large Crowned Willow-Warbler has the sense to tuck away its eggs out of sight, and I have found nests in crevices in tree-trunks, in holes in branches, amongst tree roots, and even in holes descending almost vertically into the ground. They are somewhat early breeders, as by the end of June only nests containing young ones are to be found. The normal clutch is four or five, and the eggs are unspotted white. Moss and leaves are the chief building materials. They are to be met with in summer at from about 6,000 ft. or even less up to the forest limit.

The same morning I discovered a nest of the Western Spotted Forktail (*Enicurus maculatus maculatus*). This bird is not unlike a Wagtail, especially in habits. It is larger of course, laying an egg not much smaller than that of a Blackbird, but like the Wagtails it is always to be found near water or wet ground. It is also possessed of an abnormally long tail, the outer feathers of which curl outwards leaving a distinct fork from which the bird's name is derived. Its feeding habits are those of the Wagtail, but its chief resemblance lies in its habit of continually vibrating the tail. The plumage is barred black and white throughout. Hence altogether it is a very striking bird. The nest is a rather bulky affair of moss lined with grass and hairs, and is invariably very well concealed. The one in question was under the overhanging lip of the perpendicular bank of the stream. It was concealed from above by the long grass which hung down over the edge. It contained three nearly fresh eggs, white thickly speckled and mottled with brown and yellowish-brown. The normal clutch varies from three to five, and the season is from the end of April to about halfway through June. These Forktails are to be met with on most of the torrents and mountain streams of the North-west Himalayas from quite low up to considerable elevations.

I have now finished with Cuckoo glade, except for mentioning the fact that I noticed a trio of Kashmir Pied Woodpeckers' nesting holes quite close to one another. Two were being used by their rightful owners, and the third by a Crested Black Tit. All contained young ones.

On arrival in the glade the previous year on June 2nd, I was brought a clutch of eggs of the Simla Streaked Laughing-Thrush (*Trochalopteron lineatum griscentior*) by some Gujars, who had noticed the nest the day before. These eggs are a most beautiful deep unspotted greenish-blue.

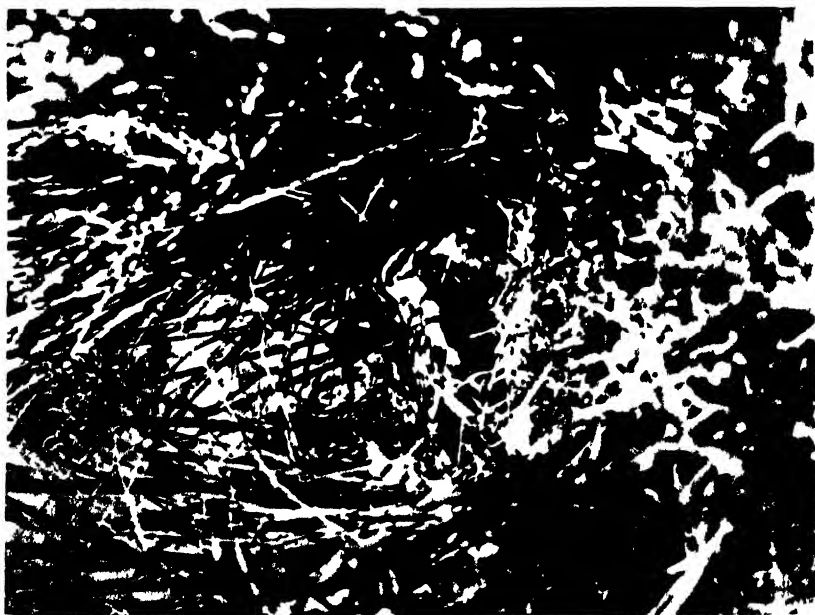
A 10-mile walk brought me back to the house-boat, which I had sent round to Watlab to await my arrival. The road led gradually downwards, following the stream till it debouched into the valley on its way into the Wular. To begin with, I was wending my way along what might have been an English country lane; high hedges on either side and picturesque villages to be traversed every couple of miles: thence along a mere track through thick woods until the final descent to the vale of Kashmir was reached. Here one descended a deep and narrow gorge, down which the stream, now of quite decent volume, fell in a series of waterfalls.

It was in this gorge that I noticed a nest of the Himalayan Whistling-Thrush which must have been perched a good 200 ft. above the gorge bottom. Just before reaching the descent, I had also found another Western Spotted Forktail's nest containing newly-hatched young ones.

At the bottom the gorge suddenly turns, and, opening out, discloses a good-sized village surrounded by shady orchards, chenars, and mulberry trees. I was seated at the foot of one of the latter, when my eye was attracted by the antics of a female Himalayan Paradise Flycatcher in a neighbouring fruit tree.



SMALL BILLED MOUNTAIN THRUSH
Ore cincla dauma dauma



EASTERN MEADOW BUNTING
(*Fulbertia cinerea stricklandi*)



HIMALAYAN TRIEPFELFRUCHT
(*Certhia himalayana himalayana*)



HIMALAYAN PARADIESHYCAUCHIER
(*Tachitrea paradisi leucogaster*)

She was fussing round a nest on which the male was seated, his filmy snow-white tail drooping down in a most slender curve beneath the nest. Both sexes take part in incubating the eggs, and this is unfortunate from the point of view of concealment, as the glistening white plumage of the male makes him such a very conspicuous object.

The nest was so placed, about 20 ft. from the ground among the slenderest branches, as to make it simply impossible to anchor the camera anywhere near it. The only solution was to bring the nest to the camera. This was accordingly done by cutting off the branch and lashing it lower down in a more convenient position. Having obtained the photographs, I relashed it as close to its original site as I could, and, strange as it may seem, I had hardly reached solid earth with my apparatus before the female Flycatcher was calmly seated on its restored possessions. The three eggs were in an advanced stage of incubation, so I was highly gratified to see that she thought so little of the extraordinary liberties I had taken with her entire house and home.

The eggs of the Paradise Flycatcher are pink with small red spots, and three to five is the clutch. The breeding season is from May to July. As can be seen, the nest is compact and neat and placed rather on the top of a branch or fork, and is composed of grass, mosses, and lichen lined with hair. They especially affect orchards and groves, and in Kashmir are to be found chiefly round about the villages in or near to the main valley.

The remainder of my way to the boat was on level ground and was soon covered. No more photographs were taken, although I certainly ought to have exposed a couple of plates on a nest of the Brown Rock-Pipit, which I discovered amongst some rough ground a few yards up the hillside. It was well hidden by a small bush and some tufts of rank grass, and contained

young ones. I noticed one of the parent birds fly to the place with something in its bill, otherwise I should never have spotted it.

A Drongo's nest (*Dicrurus macrocercus albirictus?*) high up in a chenar tree was the last discovery before the boat was reached and my week's journey ended. This nest too held young ones, and I would have liked to have photographed it, but it was in a most difficult position, besides which I was feeling far too tired to bother: tired, but eminently satisfied with my week's outing.

CHAPTER VIII

THE LIDAR VALLEY

Being so keen on the study of birds and consequently in the habit of noting the slightest movements around one and of catching every avian sound perpetrated within hearing, I was vain enough to conclude that one's powers of observation in all directions must naturally be more fully developed than in the ordinary mortal. Last year, however, my vanity received a rude shock, and I now realize that however much one's powers of observation may be developed in a certain way, in other matters one may be as blind as any bat. Being exceedingly fond of flowers, my wife had often asked me about the wild flowers of Kashmir, and I had had to confess that, but for the Irises with which some small boys greeted my first arrival on a houseboat in Srinagar, I could recall no particular flowers whatsoever, but only a general impression of colour and beauty, rendered more noticeable by comparison with the arid rockiness of the North-West Frontier whence I had come.

After 1921, the last time I had visited Kashmir, my wife took me in hand, and I soon found myself almost as keen in my search for wild flowers as for birds, and almost, but never quite, as proficient therein as she. When therefore last year we got the chance of visiting Kashmir together, we decided to go to all my old haunts, armed not only with the paraphernalia of bird-photography but also with the available popular literature on the flowers of the country. We tramped the same country at the same time of year as I had done, and where before I had received no lasting impression I now discovered myself in a land of flowers, sometimes

where every single step meant death to some beautiful growth. We identified nearly 200 different kinds and would quite possibly have doubled that number had Blatter's 2nd Volume been available. Hence then the shock to my vanity. I must, however, start at the beginning.

We had intended to go up the Lidar Valley, cross into the Sind and thence skirt the glaciers and frozen lakes of the famous mountain of Haramoukh to climb over the 14,000 ft Tsurlat Pass and drop down the Erin Nullah to the Wular Lake, after which we were to visit the Lolab Valley. Owing to bad weather, however, we had to modify our plans and went straight from Wangat in the Sind Valley to Ganderbal intending to acquire a houseboat and to float leisurely down to Baramullah looking at the lakes *en route*. Fortunate it was that we changed our minds, as after leaving Wangat we were nearly washed away by the terrifying floods of 1928.

On July 1st, we loaded a lorry to its utmost capacity and on arrival at Pahlgam, the terminus of the motor road, unshipped our baggage in the midst of the sea of tents and set off with a cavalcade of coolies up the West Lidar to find a peaceful camping ground away from the crush. A mile up-stream from the broken Mamal bridge and close to the rickety structure thrown across the river in its stead we found a haven, and there our adventure began, for to us it was an adventure though far be it from me to give the impression that our wanderings were anything out of the ordinary. We had chosen a route over the hills which is passed over by numbers of tourists every year, but between us, being the one a lover of flowers, the other of birds, and both revelling in the open country, I do think we can claim to have got more out of the experience than a great many of those who have followed the same path.

We had been lucky enough to find a slight eminence which gave practically an uninterrupted view both up and down the river. From our tent door we found ourselves viewing a snow-tipped mountain whose summit at sunset took on all the colours of the rainbow ; a sparkling jewel mounted to perfection in its setting of pine-clad slopes unspoilt by any signs of civilization, as the sea of tents and shanties of the Pahlgam Bazaar were purposely hidden from view. When last I had seen Pahlgam, seven years before, but three tents were visible : now alas, with the completion of the motor road the number has risen to more like three hundred.

In 1921 I had only passed through on my way down the valley, and my only finds near Pahlgam on that day, July 8th, were a nest of Hodgson's Pied Wagtail under a large stone in a shingle bed by the river which, strange to say, contained five quite fresh eggs, a second effort perhaps, and two nests of the Western Dark Grey Bush-Chat (*Rhodophila ferrea ferrea*) about five miles further down the valley near Batakot. This Chat is strangely shrike-like when flying, the long tail, white and black plumage, and white eye-stripe being responsible for the resemblance. These nests, of grass with a few feathers for lining, were both close together, one at the foot of a scraggy wild rose and the other in the roots of a hazel stump. The former contained newly-hatched young and the latter three hard-set eggs, typical Chats' eggs, blue-green with reddish markings mostly at the larger end.

I was particularly keen on obtaining photographs of the Himalayan Whistling Thrush. Our first walks, therefore, took us along the main river or up the side streams flowing into it on its right bank. Two in particular, the Wachhran Grar and the Hodasar Nar, afforded several days keen enjoyment, as they are negotiable for quite a considerable distance and are exceedingly pretty little mountain torrents. On the way to the Hodasar Nar

on July 3rd, we found two nests of the Eastern Meadow-Bunting and one of the Indian Bush-Chat, containing two, three, and three eggs respectively. I subsequently found a number of nests of both these birds so their breeding season is a protracted one. On the same day I saw a Crested Black Tit enter a hole in the ground at the foot of a small bush where it was evidently feeding a hungry family of chicks.

The following day, therefore, I took out the hiding tent and soon had all ready for an attempt at portraying this perky little bird, which incidentally had already shown its contempt for the great lens by visiting its nest when I was but twenty yards away collecting a final handful of leafy twigs for camouflaging a rather bare patch on the tent's roof. The bird was rather quick in its movements, as its method of reaching its chicks was to drop from twig to twig from the top of the bush until its last drop took it head first into the nest hole. However, an exposure of $1/35$ second at F4 successfully defeated it as I was lucky enough to press the camera release at the right moment on three out of five times.

Within three-quarters of an hour from my arrival with the tent to the time I emerged therefrom, I had used up five plates, and in the twenty-five minutes spent on actual photography the birds had entered their nest with food on ten occasions. With the help of the Shikari, therefore, we lifted the tent and its covering of branches and moved it bodily about 200 yards to one of the Meadow-Buntings' nests. As the Tit had been so bold, I was silly enough to imagine that the Bunting might be equally so, but it promptly deserted and the following day the nest was destroyed. Next time I tried for a Bunting's photograph I put up the tent at dusk the night before with a circular piece of dull black paper to represent the lens, so that the bird would have a complete night to get used to the proximity of the hide.

This nest was in the roots of a bush on the little Marg on which we were encamped and on the day I found it, July 6th, contained two feathered young ones. I disturbed the female at the nest whereat she promptly feigned injury, tumbling about and dragging her wings along the ground. Unfortunately I placed the hide too far away with the result that the image of the bird is very small and necessitates rather too much enlargement. It is, however, a much greater mistake to be too close owing to the difficulty then in obtaining all portions of the subject in sharp focus for enlarging purposes, but it is equally a fault to be too distant, and when putting up the hide one should make trials with the camera actually in position to ensure that all is going to be correct.

Another walk, on the 5th, in the direction of the junction of the Hodasar with the main river was most productive. My shikari had been in Pahlgam but a fortnight previously encamped near the broken Mamal bridge, and on my drawing his attention to a pair of Himalayan Whistling Thrushes flying about the steep bank immediately behind the bridge, volunteered the information that he had seen young birds there three weeks previously being fed by the old ones. Imagine my surprise therefore on seeing a Whistling Thrush fly down the hillside to a massive nest perched on a beam of the rickety stump of the bridge which projected some feet over the torrent. It turned out to contain four slightly incubated eggs. In a cavity in the stone ramp at the Pahlgam end was a Plumbeous Redstart's nest. The bird was evidently laying as it held but 2 fresh eggs. It was most conveniently placed for photography, but before the bird commenced sitting some Indians placed their tents close by causing immediate desertion.

We walked back through the woods where of birds I saw few other than a foraging party of Tits and Nuthatches, so our

attention turned to the many pretty little flowers with which the ground was strewn. A rose-coloured potentilla (*Potentilla nepalensis*) with a white centre was the most noticeable in addition to the anemonies, geraniums, and purple dog violets. When almost home we fell in with a couple of Gujar boys who led me to a nest in the side of a particularly gloomy little depression. It was that of an Indian Blue Chat (*Larvivora brunnea*), was made of a great number of skeleton leaves and pine needles lined with hairs, and contained the usual clutch of three pale blue eggs. I promptly brought the half-plate camera into play, but the exposure to give in such gloom was absolutely a matter of guesswork, and even two minutes at F 8 proved rather an under-exposure.

On the 8th we went a couple of miles up the West Lidar, and crossed by means of a log bridge slung from one enormous boulder to another. The river here is particularly beautiful. Just above the bridge it is divided by a well-wooded island, and at the meeting of the waters, the Wachhran Gar, a small but most picturesque mountain torrent, flows in. Tall pines grow down to the water's edge, and boulders cause the swiftly flowing waters to be churned to foaming white. An angle in the face of one of the largest boulders just at the water's edge was the spot chosen by a Whistling Thrush which flew across the river with a large piece of material in its bill. The nest, a very bulky one, turned out to be almost complete. Near by, incidentally, was an older nest of the same species.

Crossing the bridge, we made our way to the mouth of the Wachhran Gar. Here the ground was carpeted with deep blue forget-me-nots and tiny islets in the stream were thick with Jacob's ladders. As we started up the stream, I disturbed a Plumbeous Redstart building in a cavity in a small tree overhanging the water. Eventually we reached a small fall, the water streaming

past the mouth of a miniature cave at its edge. A stone thrown inside was followed by the hurried exit of a Whistling Thrush. There proved to be a nest on a ledge within, containing four eggs. Hereabouts we came on the first columbines we had seen—deep purple ones—and also a campanula, *Campanula latifolia* I believe. Returning to the river we were objects of much curiosity to a large troop of brown monkeys.

The only other Whistling Thrush's nest found at Pahlgam, on the 17th, was rather an abnormality. I had gone to the Hodasar Nar to try conclusions with a Grey Wagtail, but found the nest and its vicinity swarming with vicious red ants; two of the young ones in the nest were dead and the third was only capable of faint spasmodic movement. I naturally put the poor little creature out of its misery, and, leaving the tent un-opened, turned up the stream. I soon came on a dead tree trunk some 15 ft. high near the top of which was a large cavity. This hole, round about eighteen inches in height, had been filled up with great quantities of moss until only room remained for the bird to enter, and over the rim of the huge nest thus formed peered the heads of two almost fully-fledged young ones.

On the 11th I spent the first part of the morning photographing a Large Crowned Willow-Warbler at its nest in a hole in a low stone wall quite close to the camp. I had little difficulty here, as I had put up the tent the previous evening, excepting that it had rained heavily in the night and the tent was somewhat wet. After disposing of the Warbler, I spent half an hour watching an Indian Bush-Chat which finally gave away the position of its nest at the foot of a pine. The nest was very much hidden in the roots of a bush, so I left it until the eggs should be hatched to afford a better chance of catching the birds outside the nest on their many visits with food, and in this I was quite successful five days later.

The last episode at Pahlgam which is worthy of record was a climb through the forest to Tuliyan Marg. A strenuous pull of 4,000 ft. brought one to the edge of a gorge down which a wonderful panorama of the mouth of the Lidar Valley, the vale of Kashmir, and then the mighty ramparts of the Pir Panjal Range unfolded itself. It was here that I first saw yellow violets. I had not known before that such a flower existed. Not having a guide we had lost the track, but felt sure the stream in the bottom of the gorge must flow down from the Marg, so we foolishly dropped down to it instead of keeping to the crest of the ridge. The pull up the gorge bottom was most tiring and the going too bad for the riding ponies which had to be sent back and up the ridge. On the whole, however, it was worth it as the steep grassy slopes of the gorge side and the many little islets in the stream were a mass of wild flowers—forget-me-nots, and columbines of a deep purple hue and a particularly pretty variety with a white centre and purple petals. There were also numbers of gentians, and amongst masses of tall Jacob's ladders on a small island was a striking pale pink flower.

A final scramble up a steep sheep track brought us to the Marg. A most heavenly spot it was too; the gentle grass slopes were deep blue with an almost solid mass of flowers resembling large forget-me-nots; patches of snow lay everywhere and buffaloes and sheep were grazing peacefully in scattered herds, while some rough huts marked the Gujar settlement. White-capped Redstarts, Grey Wagtails, and Pipits were feeding in the damp ground at the edge of the now peaceful stream, and the further end of the Marg was marked by masses of great boulders and a semi-circle of towering heights enclosing a large glacier which looked as if it might quite easily come crashing downwards to shatter the peaceful scene.



PLUMBICUS REIDSTARK
Alva m. j. d. g. a. fuliginosa.



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HIMALAYAN WHISTLING THRUSH
(*Myophonus caeruleus himalayensis*)

Our unnecessary climb up the gorge had wasted a good deal of time, so as soon as we had refreshed the inner man we perforce started the return journey, and were on the point of leaving the plateau when a splash of blue in the shade of some boulders drew my attention. To say we were thrilled on finding ourselves looking at the first blue poppies we had ever beheld is mild. I can only describe the flower as heavenly, so delicately blue and so delicately built, yet as we found later a most robust plant. There were far more buds than blooms, but this turned out a blessing as each morning for some days we found discarded sepals lying upon the tent floor and fresh blooms upon which to feast our eyes. It was during the night and seldom in daylight that the flowers burst forth. The only nest I found that day was a Large Crowned Willow-Warbler's in the roots of a pine. It contained five fresh eggs.

By the 16th the Whistling Thrush's nest up-stream contained four eggs, so on the evening of the 17th we carried up the hiding tent, and I spent a most strenuous hour erecting it on an enormous boulder in the river from which a good view of the nest was obtainable. It necessitated being a shade too far away but no alternative site existed. To ensure the safety of the tent on its precarious pitch I had to anchor it with stones slung over the sides of the boulder from the corner ropes. To camouflage the tent was a most uncomfortable proceeding as the structure occupied the only flat space on the rock and I was not risking a fall into the roaring smother of foam rushing past on three sides of my perch.

The work next morning opened in a most disappointing manner. The problem was obviously one chiefly of time, as a nasty shadow from the overhang above the nest very soon showed signs of falling across the entire shelf on which the bird had to alight. I

had spent perhaps ten minutes ready for immediate action but had come to the conclusion that a more comfortable position was necessary if I were to remain on the alert indefinitely. I therefore took my hands from the camera and started moving the accessories and myself into fresh positions. Of course at that moment the image of the bird appeared on the focussing screen in the very spot I had hoped for, but before I could get back to work, it flew off again. A few minutes later I lost another good chance through hesitating to take it the moment it appeared, hoping that it would change its position slightly and give me a better picture. Thus, when I eventually succeeded in exposing a plate, the bird was no longer thrown up against the light back-ground of sunlit rock but was in the somewhat deep shade of the now darkened ledge. Each time it appeared it remained motionless for perhaps five seconds before hopping straight on to the nest and settling down. As the lens was on a slightly lower level than the upper rim of the nest I had to get her off again after each exposure, and so sure was she of the inoffensiveness of the hide that after the fourth attempt a loud shout did not affect her and I had eventually to wave my fingers through a spy-hole. This, of course, had more than the desired effect and she was absent for half an hour before venturing back. On one occasion she obligingly sang to me for some minutes while seated on the eggs.

This concluded our stay at Pahlgam. Other birds and flowers were of course met with there but I have related the more interesting episodes. On the 12th I found a Green-backed Tit's (*Parus monticolus monticolus*) nest with at least five eggs in it in a cavity in a tree, and also nests of the Eastern Grey Wagtail and Hodgson's Pied Wagtail only 5 ft. apart on a little island in the East Lidar. Both contained five young ones about to take wing. Sandpipers were fairly numerous and the Brown Dippers

were in family parties. On the hill-sides the striking whistle of the Pale Bush-Warbler (*Homochlamys pallidus pallidus*) was common, and from the pine trees bordering the river in two or three localities the unmistakeable five-note descending call of the Large-billed Willow-Warbler was often repeated. Red-breasted Fly-catchers were common in all suitable localities.

On the morning of the 19th we loaded our kit and equipage on nine ponies and three coolies. Our destination was Aru, a very short march, so by lunch time we were already settled into our new quarters, having pitched the tents half a mile from the village on the very edge of a steep bank running down to the Aru river. The views were again absolutely heavenly, so after a short rest we set off up-stream for a preliminary look round.

We soon came on the fast disappearing remnants of a snow bridge. My wife at once spotted a couple of late specimens of *Primula denticulata*, the small mauve flowers of which grow in a thick spherical cluster at the extremity of a stout stem about eight inches long. My own attention, of course, was concentrated chiefly on the birds, as it was here that in 1921 I had hit upon the reason for my lack of success in finding Plumbeous Redstarts' nests. On that occasion, July 6th, sitting quietly in the shelter of a bush at this very spot for the same idle purpose of watching that year's snow bridge break up, a female Redstart had suddenly flown down from a cleft in a slab of rock to feed off the flies and insects on the wet boulders in midstream. Shortly afterwards the male joined her and they played about together for a few minutes before she returned to her domestic duties—the nest turned out to contain four eggs—while he flew a short distance up-stream to his favourite stretch. He seemed to take no interest in the nest whatsoever, as I remained watching the whole morning, during which time the female once again left her post to snatch a hurried

meal. I had previously been in the habit of watching the males on the assumption that as they were alone, their mates must be sitting on nests nearby and that they would eventually visit them. The first surmise was of course correct, but the latter obviously not so. It is the female which should be watched, or even the pairs, but to concentrate on a lonesome male is a futile proceeding. Profiting from this experience I wound up this trip with a total of no less than ten nests of this species, whereas in 1921 I had only been able to mark three.

It was also in Aru that I had previously formed the opinion that the Himalayan Whistling-Thrush breeds twice in the year, my reasons for this conclusion being that on the 6th and 7th July 1921, I had found two nests of the species in question, one containing two newly laid eggs: the other was empty but the bird was seen standing on its edge. The former nest had within two yards of it on a shelf of the same boulder a recently used one, and another used nest was not many yards distant from the latter. By the 8th this second nest contained eggs which came to an untimely end. I was unable to see from the bank which slightly overlooked it just how many eggs there were, so Habiba, my shikari, climbed on to a cooly's shoulder and was just able to reach the nest, with a stretch. The stretch proved fatal. He lost his balance and in an attempt to save himself clutched at the rock face. His fingers alas only found the edge of the nest with the result that the next moment eggs, nest, and a gasping shikari were submerged in the ice-cold waters of the torrent. On leaving Aru I had also noted three more nests with the birds sitting, two quite inaccessible, the third proving to be empty but quite ready for eggs. In other words most birds then appeared to be only laying. As I had found this state of affairs in the Bandipur Nullah in May, I naturally came to the conclusion mentioned above.

The nests found on this occasion at the Mamal bridge and above Pahlgam helped to strengthen my views, but the only definite proof of their correctness is a letter which I received some five years ago and which I am sorry to say I lost in a move before I had answered it. Should these lines reach him, I hope the writer thereof will accept my apologies and the reasons given here for my never acknowledging its receipt. As far as I remember he stated that in Naini Tal a ringed bird, which had seemingly been captive at some time of its life, built a nest on a windowsill of an out house, and after bringing up one brood shortly afterwards laid again in the same nest and produced a second batch of young ones. A new nest was not built, and as the bird was ringed, the possibility of another pair having appropriated the nest is ruled out.

The only Whistling-Thrush's nest found on this visit was on a branch of a willow at the side of the main river. I could not reach it and was unable to make out whether the bird was carrying food or building material thereto.

In Aru I took one photograph only; that of a Cinnamon Tree-Sparrow which had conveniently nested in a hole in a tree immediately below the tent. Both birds were very tame and I was able to erect and camouflage the hide and get a series of pictures of them both within the space of a couple of hours.

I then returned to the tent to try for a snapshot of a young Sooty Flycatcher which had selected a tent-peg on the very edge of the bank as being an excellent perch whence to make its sallies after insects. My efforts in this direction were, however, rudely terminated by a bullock which broke three ropes, pulled out half a dozen pegs, and before we got rid of it, upset our tempers considerably as well as most of our gear inside the tent.

On July 26th we again packed and moved up to Lidarwat. Aru is an exceedingly pretty spot, the park-like slopes above and to the North-East of the picturesque village reminding one most strongly of parts of England, but we found it rather hot and the walks somewhat restricted in number. One particularly interesting though rather strenuous one was along a stream which I think originates on the slopes of Kolahoi and eventually brought us up to a minute Marg where an avalanche had cut its way through the birches around, hurling the stricken trunks in all directions. Two Little Forktails (*Microcichla scouleri scouleri*), miniatures of the Western Spotted Forktail with a very stumpy tail in place of the latter's excessively long one, seen at the stream, and two pairs of White-Capped Redstarts on the Marg, were the only birds of particular interest noted, though the rock-strewn slopes must have held many Pipits. Unfortunately our investigations were cut short by a terrific rain storm through which we had to plod home where we eventually arrived looking more like drowned rats than human beings.

CHAPTER IX

LIDARWAT TO THE SIND VALLEY

At Lidarwat we pitched our tents on the left bank, an unwise proceeding as the ground on this side is damp from many springs, added to which the abruptness of the thickly-wooded slopes meant a late sunrise and the consequent partaking of breakfast muffled up in thick coats. The river is here foaming white, sometimes restricted in width by massive boulders through which the waters rush with a deafening roar, at others quite wide and almost peaceful. From the right bank the mountains rise most precipitously to heights of over 15,000 ft. with trees clinging to the steep slopes and crags in a most miraculous manner, while a great buttress of almost sheer cliff marks the junction of the West Lidar flowing from Kolahoi and the Sekwas stream descending its steep open valley of wonderful pasturage from the heights around the Yamhār Pass.

Having camped but a couple of hundred yards from my resting place of 1921, but in a more open glade to afford an unrestricted view down the valley, my first act was to visit a locality close by, where in that year I had been so successful in finding a number of nests by that best of all methods, sitting down quietly at a good point of vantage with a pair of binoculars. In a few hours on the 2nd and 3rd July, I had marked down no fewer than three nests of the Kashmir Sooty Flycatcher, one being built on a horizontal branch of a fir-tree, and two camouflaged to perfection to match the bark of the birches in which they were placed, one nest of the White-browed Blue Flycatcher (*Muscicapula superciliaris superciliaris*) with three eggs, a nestful of young

Grey-headed Thrushes in a tangle of small branches springing from a point 10 ft. up a tree trunk, and two nests of the Large Crowned Willow-Warbler, one of which was in a hole in the ground. Now, I made straight for the birch in a cleft of which the Blue Flycatcher's nest had been situated. The aspect of the place had altered considerably as woodcutters had been busy, and my tree now stood in a somewhat isolated position. Most of the undergrowth too had gone, and only the thick carpet of giant maidenhair fern persisted in the shadier spots. Imagine then my utter amazement on finding, after a lapse of seven years, that not only was the very loosely-built wall of stones still extant which I had put up in an attempt to photograph the bird, but one stone, purposely balanced on another so that the camera upon it could be tilted as necessary on the bird's arrival, was still there, wobbling loosely even as I had placed it. Man had felled the trees and torn away the bushes; rain, snow, and all the furies of the elements had been loosed upon the hillside, yet that silly wobbling stone remained untouched. Thinking deeply I climbed a short way up the slope, where in a shadier part of the forest I found myself confronted by extensive patches of a pale mauve rather stiff-petalled flower, reminiscent of michælmass daisies only that the flowers were nearly two inches in diameter and seldom more than three or four on one stalk.

Although we were now at an elevation of roundabout 9,000 ft. where I ought to have been on the look-out for a number of birds of the higher altitudes, I still concentrated on the river-side in an effort to get the better of the Plumbeous Redstarts. Nests I found and in situations which for my purpose could not have been bettered, but it was not until we were on our way down the Sind Valley that my luck changed and success came my way. On the 28th July a very exposed nest of three eggs was found in a

small hollow 2 ft. from the ground in the trunk of a pine tree by the water's edge. When I went again on August 3rd to see if the eggs were hatched I found the nest destroyed, but on the way back hit upon another, also containing three fresh eggs. This was a curious nest out of sight in the roots of a fallen tree. Its back and sides had been prolonged upwards to fill the cavity so that it was practically a complete dome. This nest was destroyed two days later, on which day, however, I put a female off a nest in a cavity in a grassy bank on the Sekwas stream. In this nest were two baby young ones and one egg. This time I was defeated by the weather, as of our remaining three days at Lidarwat, one was taken up by a trip to Kolahoi, and heavy rain on the other two rendered photography impossible.

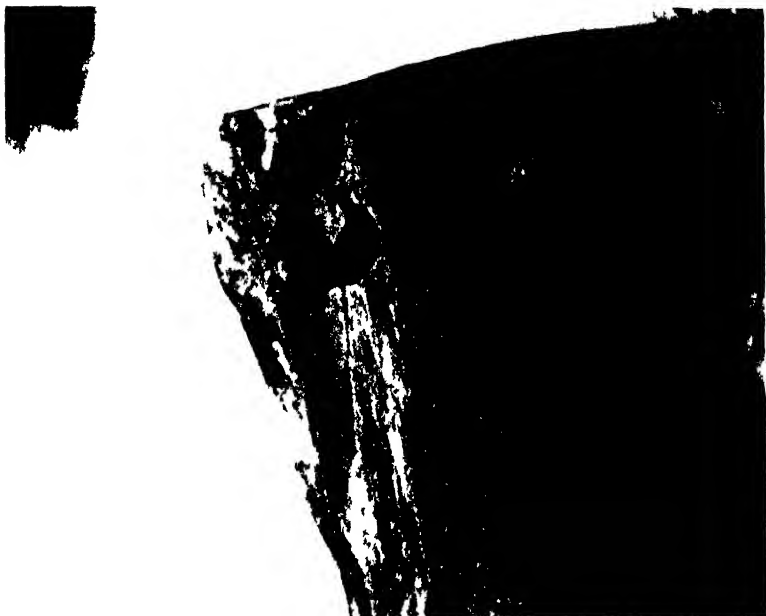
On August 6th after an early breakfast we procured a couple of ponies and set off for Kolahoi. The ride was more or less uneventful till we reached the limit of the tree-growth where the valley bends and the glaciers and rugged snow-covered peaks of Kolahoi burst into view. In the masses of tumbled rocks at the bend, splashes of blue disclosed an abundance of blue poppies. A snow-bridge, cracked its entire length, spanned the river, and beyond, the concave slopes of the deep valley were a vivid gold tinted nearer at hand with the blue of the dark forget-me-not type of flower we had first seen at Tuliyan Marg.

As we steadily ascended, the ground became more rocky and the golden ragwort disappeared, but beds of small purple irises became common at 10,500 ft. Of birds, the White-capped Redstart was common by the river and the White-breasted Asiatic Dipper had now taken the place of the Brown one. Flocks of Snow-Pigeons were feeding everywhere and allowed one to approach fairly close. Fine heavy birds they are with a powerful flight. Like balls of snow with the wings grey banded with

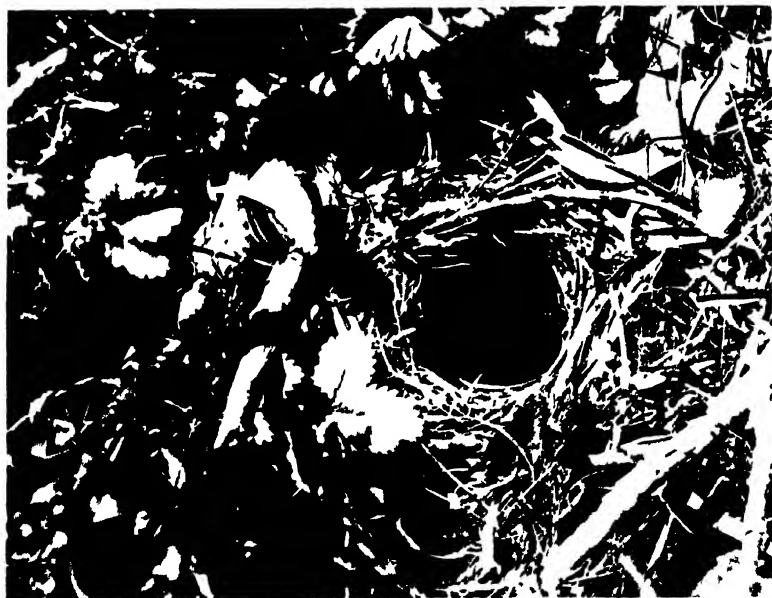
brown, the primaries darker, a slate-grey head, pale earthy-brown upper back and a blackish brown tail bearing a broad crescent-shaped crossband of white.

The second edition of the *Fauna* undoubtedly errs in restricting the breeding season of the Indian Brown Dipper to the first four months of the year, at any rate in so far as Kashmir is concerned. At Pahlgam, during the first half of July, I saw many family parties in which the young birds had obviously but recently left the nest, and now at Lidarwat I found two nests still occupied ; one on the 29th July with three young ones only just beginning to get their feathers, and another on the 31st into which I could not see but from which the young had still not flown when we left Lidarwat on August 9th. Two other nests on the Sekwas stream I was unable to locate, but the young ones from these were first seen on the stream on August 5th, and after crossing into the Sind Valley, as late as August 12th, young but lately out of the nest were seen at Koolan which is barely 7,000 ft. above sea level.

I managed to photograph the owners of the inaccessible nest by placing the hide immediately above it with the lens directed on to a boulder in the torrent on which they invariably alighted before flying in. I had tried the other nest unsuccessfully the day before, impatience being the chief factor in my failure. To get the sun behind the camera, I erected the tent in the afternoon and then and there set to work. The head of one bird appeared repeatedly over the top of a boulder quite near at hand, but it was soon obvious that the lens was an object of suspicion and that neither of them would visit the nest so long as it remained there. I might have succeeded had I put the tent up earlier without the lens in position. I could easily have left a coolie to watch it from a distance to see that no one interfered with it.



INDIAN BROWN DIPPER
Cinclus pallasi tenuis stri



HIMALAYAN RUBY THROAT
(*Calliope picta ruficollis*)



JERDON'S HEDGE-SPARROW
(*Prunella strophiata jerdoni*).



HUME'S LESSER WHITE-THROAT
(*Sylvia althaea*).

As a rule I entertain no fears of this, as I have noticed that the camouflaged tent is very seldom spotted by passers-by, but on this occasion it was astride a well-used pathway along the river-bank.

Returning from this abortive attempt, I saw a Kashmir Wren (*Troglodytes troglodytes neglectus*) enter a hole in the end of a broken branch of a birch. This was the first time I had found this type of nest. In fact I had always looked upon the nidification of this Wren as being similar to that of its English relative. This site was more than what one would have expected of a Tit. Unfortunately, being some 15 ft. from the ground and the branch obviously a decayed one, it was impossible to find out how, and of what materials, the nest was made. Judging by the clamour raised on each visit of the parent birds, the young were well advanced.

On the 9th we requisitioned eight baggage-ponies and three coolies and set out on the first stage of the trek across the dividing range to the Sind Valley. Crossing the Lidarwat meadows, the forerunners of the autumn flowering of the rose-coloured primulas showed up in patches along the edges of the streamlets, and wherever the ground was particularly damp, beds of the mauve and purple lousewort caught the eye. We soon commenced the steep ascent of the Sekwas valley and a new world unfolded itself. Trees grew scarce and eventually ceased altogether, the hillsides becoming clothed in rich grass with patches of juniper and other bushes. Nearing 11,000 ft. besides masses of golden yellow ragwort, a particularly fine mauve aster with a white centre became abundant, Falconer's aster, I believe. The bird-life too rapidly changed. Bands of Yellow-billed Choughs (*Phyrhocorax graculus*) sported overhead; Hodgson's Pipits (*Anthus roseatus*) were numerous in the grass-lands and near the streams, and the bushes became peopled with Rose-Finches and Jerdon's

Hedge-Sparrows (*Prunella strophciata jerdoni*). A Willow-Warbler was also somewhat common which I identified as Tickell's (*Phylloscopus affinis*).

We reached Sekwas (11,500 ft.) about 2 p.m., and ate a picnic lunch while waiting for the baggage ponies to catch up. Here, on July 1st, 1921, in the juniper scrub which obtains below the massive cliff in which the Yellow-billed Choughs breed, I had found a domed grass nest in size and shape like a coconut with a quarter cut out. It was sunk well into some tangled roots and contained four eggs, resembling large editions of those of the Indian Bush-Chat. The female, an inconspicuous bird from the description of the shikari who saw it plainly, left the nest in a very skulking manner, running through the roots like a rat. It turned out to be a nest of the Himalayan Ruby-Throat (*Calliope pectoralis pectoralis*).

In these bushes, nests of Jerdon's Hedge-Sparrows were excessively common. These birds were only just commencing operations, as on that date I found no nests containing more than two eggs. One nest, at 12,500 ft. on the other side of the Yamhär Pass had been found on the previous day which held its full compliment of three spotless blue eggs. The compact nests were all well concealed in the outer fringes of the juniper bushes and might have been those of English Hedge-Sparrows.

A nest of Hodgson's Pipit with four hard-set eggs with dark markings of a distinct purple hue was found here, and also one of a Tickell's Willow-Warbler containing two fresh eggs, one of which showed a few microscopic red spots. It was an untidy grass sphere lined exclusively with Chough feathers, and placed unconcealed in the juniper but one foot from the ground.

The ponies having arrived, we pushed on a couple of miles towards the foot of the Yamhär Pass and pitched camp at about

12,000 ft. Even the juniper had ceased, but the immense amphitheatre of towering cliffs and snow-covered heights, marking the head of the valley and encircling quite an extensive marsh with patches of snow lying here and there around it, was most impressive. The sun soon set behind the crest of the ridge we had to cross on the morrow, and the temperature consequently fell with great suddenness and to such an extent that we spent a most uncomfortable night and were glad to get under way again the following morning.

Passing the marsh, where we saw a pair of Green Sandpipers, forerunners of the vast horde of winter migrants, a climb of a further 1,500 ft. brought us at last to the crest of the ridge and the summit of the Yamhär Pass, and there burst upon us the most wonderful view it has ever been my lot to behold. One moment we were ascending a gentle grassy slope, carpeted with deep blue gentians and other flowers, the next, with alarming suddenness, standing on the brink of a terrifying precipice with the whole Sind Valley spread out below, so far below that the river appeared a fine silver thread, and beyond, fading into the blue distance, peak upon peak wreathed in fleece-like clouds marked the great dividing range of mountains of upwards of 20,000 ft. separating Kashmir proper from Ladakh; the immensity of the whole scene cannot fail to bring home one's puny insignificance in the scheme of things.

To descend the pass, one almost steps off into space, as for the first hundred yards or so one follows a slanting ledge on the face of the precipice to gain a narrow spur down which the path descends in a series of short zigzags to the level of the frozen lakes below. The rocks immediately overhanging the ledge formed a wonderful natural rock-garden, clothed with a wealth of plants which space and my ignorance preclude me from enumerating.

Three different primulas alone were growing within a few feet of one another. The ponies, one by one, were practically lowered down the ledge to the spur by passing a rope round the breast while a man clung on to the poor creature's tail with others steadying the load. In this manner the cavalcade reached the comparative safety of the spur, but here one pony turned two complete somersaults and rolled to the edge of a small cliff where it miraculously came to rest, but its load hurtled over the edge fetching up in a snow-bed some 300 ft. below. Fortunately the load happened to be our bedding rolls, so no damage was done. We were in absolute terror lest our cameras and negatives should follow suit.

This incident delayed us a good hour, and we almost despaired of getting down to the valley that day. However, our spirits rose after a picnic lunch and a rest on the level stretch of wonderful pasturage below the pass. The flowers were, if anything, in greater profusion than on the Sekwas side, and as soon as we entered the top of the Koolan Forest at between 11 and 12 thousand feet, the air was strongly perfumed with the sweet scent of large cream columbines, which grew in clumps amongst the trees.

A further drop of 1,500 ft. in three quarters of a mile measured across the contours, but probably entailing twice that amount of walking down the zigzag path, brought us to the open marg and camping ground at Zaiwan, where I had found on June 30th, 1921 a nest with young of the Red-flanked Bush-Robin (*Ianthia cyanura rufilata*) hidden away under a fallen log. The highly suspicious owners, possessed of a danger note like the rasp of a file, had the curious habit of entering the nest from one side of a loose flap of bark and leaving from the other. I had also found in the heavy pine forest just below on the day previous nests

of the Small-billed Mountain-Thrush and the Grey-headed Thrush, containing two young ones, the latter in the side of a bank, this being the first time I had ever found the nest of this bird at ground level. A decayed stump appears to be a most favoured site. The Mountain-Thrush's nest, like the one I found above the Lolab Valley, was constructed mainly of pine needles but had a foundation of roots. It was not particularly well hidden in the exposed roots of a pine and contained three eggs, one of which had the markings collected chiefly in a zone at the larger end.

Another short rest, and we negotiated the last 3,000 ft. through the unbroken pine forest down to Koolan and the Sind River, which we reached at 6-30 p. m. Having dropped a mere 6,500 ft. in approximately six miles, about two of which are practically on the level, our knees felt like giving way at any moment, and for the next few days my shins ached abominably and were most tender as the result, I presume, of the appalling jarring to which they had been subjected.

The most interesting part of our trek was now over, but three further incidents are really worthy of record. On August 13th returning from Gund Post Office by the river-side path, we came upon an agitated female Plumbeous Redstart. A little surreptitious watching from up-stream disclosed the fact that she possessed a nestful of well-grown young ones in a cavity in the further bank. Fearing that these would leave the nest at any moment, and having been cheated so many times, I decided that I must make an attempt to obtain photographs the very next day. Alas, an appalling thunder storm raged the entire morning. However, at 2 p.m. I set off in a drizzle on the three-mile walk determined to make the best of a bad job. It was raining harder when I put up the tent but cleared somewhat as I got inside. The birds were

suspicious at the start and it was 3-40 before the female appeared at the nest, by which time the light was so bad that it was obvious that photographs of the bird in the nest cavity were bound to be failures. When the birds were out of the way, therefore, I brought the lens to bear on a stone at the water's edge, on which I had noticed they frequently alighted. It was my only chance of success and fortunately they did not change their tactics, with the result that with 1/30th second and F3.5 I succeeded in obtaining the photograph of the female reproduced at the end of the book. Unfortunately the incubation period had played havoc with her distinctive tail, consequently I feel I have not even yet been really successful as regards this sprightly little bird.

When I left the hide at nearly 5-30 p.m., I found the light was infinitely worse than I had thought it to be, the sky being completely overcast with heavy thunder clouds. It is most surprising how difficult it is to judge alterations in the strength of the light when shut up in the hiding tent. Perhaps an exposure meter of the 'Justophot' type would get over the difficulty, as of course the use in the hide of meters which employ a strip of sensitive paper is completely out of the question. I arrived back to find that I was not the only one with a tale to unfold. A bear had shuffled across the clearing where our tents were pitched, but had fortunately been too preoccupied with its own affairs to take any notice of my wife seated under a tree writing letters.

On August 21st, we moved down the valley to the Wangat Nullah breaking the journey at Hayan. In the vicinity of this place the birds of the hills ceased to be noted and the avifauna rapidly became that of the main valley, so that the bird population at our new camp about half a mile above the bridge over the Wangat river was composed of Kashmir House-Sparrows, Mynas,

Jackdaws, Bulbuls and Rollers. Even a Pallas's Fishing Eagle frequently visited the nullah. It was here too that the Central Asian Kingfishers were again met with, and a nest was found on the 23rd, obviously containing young ones, in the cutting of a channel carrying water to the rice-fields which were once again the staple crop. Here was a chance not to be missed, so that evening the tent was set up for work on the following morning.

The Kingfishers were in the habit of catching frogs in a series of puddles near our tents, so I had hopes of a photograph of a bird entering the nest-hole with a frog in its bill. I had not been in the hide quarter of an hour before a bird appeared but as it flew straight into the tunnel without pausing outside, I had no chance of pressing the release. I then thought to snap it as it left the hole, but imagine my stupefaction when the bird shot out like a cork from a pop-gun, fell a few inches, and was off like a bullet; the fall being occasioned by the fact that it actually left the hole backwards. This was the procedure on every visit, so after exposing two plates I gave up the unequal contest. Could it be that the young ones so filled the nest cavity that there was no room to turn round? While I was in the tent frogs were brought at 11-15, 11-27, and 11-42 a.m., i. e., at intervals of only quarter of an hour, and judging from observations from our camp, this rate of feeding was kept up the entire day. If the nest contained the full complement of seven young ones, this means that each one received seven frogs per day.

The two plates I had exposed were, as I had expected, complete failures, so I returned to the attack next day, and succeeded in obtaining the photograph which appears on plate 36. It rained hard all the morning and was still drizzling when I took this photo at 3-30 p.m. The bird is seated on a

stone only 4 ft. from the camera, gazing at the nest-hole which I had partially blocked up. A point to notice is the manner in which the frog is carried upside down with the long hind-legs dangling on either side of the bird's body, as both birds always carried their victims in this way. Although I considered this an exceedingly late date for Kingfishers to be still breeding, after our arrival in the main valley at Ganderbal I found two more occupied nests on the 27th and 28th of August.



HODGSON'S PIPIT (*Anthus roseatus*).



JERDON'S LITTLE RINGED-PLOVER
(*Charadrius dubius jerdoni*).

CHAPTER X

EXPERIENCES WITH NATURAL HIDES

Ever since arriving in India my ambition had been to depict by means of the camera the wonders of its immensely-varied avifauna. As the reader will doubtless understand, the difficulties in the way of the bird-photographer in this country are many; especially so in the case of the photographer who can only devote a very limited amount of his time to the task. True; the East has certain advantages over the West, as for instance the ease and cheapness with which one can move apparatus by means of that poor down-trodden human beast of burden, the Indian coolie. At home the ordinary mortal can only take out a very condensed equipment, as it generally means carrying it on his own back; whereas here the quantity is only limited by the number of coolies he wishes to engage.

In Kashmir, when out in camp, I invariably had an immediate following of three, consisting of two coolies carrying my two half-plate cameras and their sheaths for a couple of dozen plates, a reflex, and a case of lenses including a Zeiss Telephoto lens. The latter, incidentally, I have never used, although I certainly ought to have employed it on a Sooty Flycatcher's nest which was overlooked from an immense boulder at a distance of a few yards. These two men also carried my food for the day as an added burden, as well as sundry articles for use in constructing hides. The third member was a Shikari who has now developed into an ardent egg-collector. He was of great use in looking for nests and of course carried my gun. I was thus enabled to travel unencumbered, my sole equipment being a pair of binoculars, a

small folding hatchet and chisel clipped on to my belt, and a long khud stick.

Nevertheless, I fear the disadvantages of the climate very much outweigh the advantages, except of course in the hills, whither, however, this luckless mortal can only betake himself for but a short part of the year. In the plains the grilling heat of the summer renders the use of the hide at that season almost an impossibility. Can anyone imagine the inside of a stuffy little tent three or so feet square in a shade temperature of anything up to 110° and even more? Fortunately for us a considerable number of Indian birds are to be found breeding in the cold weather, and still more in the rains when a tent may at times be quite bearable. In fact there are few birds, if any, whose photography is rendered altogether out of the question on the score of climate.

There are, of course, other means to be employed in obtaining records of the birds themselves besides using a hide, as for instance the distant release and the reflex camera, but both these are very limited indeed in their scope of application. The first method entails disturbing the bird after each exposure, and devices of this nature are apt to go wrong, besides which there is also difficulty in judging the exact moment to make the exposure, as one has usually to be too far off to see with exactitude the movements of one's subject. Only one illustration in this book, namely the Willow-Warbler at its nest-hole, was obtained by this method. As regards the reflex, I have been in possession of a suitable one for some time now, but of the small birds I have as yet produced but one entirely satisfactory negative with it using it in its legitimate role as a super hand-camera, the victim on this occasion being the female Southern Indian Stone-Chat with building material in its bill. Still, there is no more certain method of obtaining good results amongst nesting colonies of the larger

water-birds, such as Egrets, Cormorants, Painted Storks, etc., than the reflex. I am, consequently, looking forward to my next encounter with these birds with considerable eagerness.

Developing is another difficulty during the summer months, since out in the blue one cannot procure pounds of ice with which to cool one's solutions, and dark-rooms are also apt to become infernos. I well remember once losing a whole batch of excellent negatives in Rajputana, seeing them melt away before my very eyes before they could be dried. That sort of thing, however, should not occur, as there are various hardeners on the market which render development quite feasible in the hottest weather without any cooling of solutions being necessary.

On the occasion of my second visit to Kashmir, the climate of that glorious country being all that can be desired, rendering the use of a hide both possible and pleasant, I determined to see what I could do with a tent I had ordered to be made and forwarded by a Cawnpore firm to the address of an agency in Srinagar to await my arrival.

Being India, of course the order of things was reversed, and it appeared that I was expected to waste my leave awaiting the arrival of the tent. With this outlook I strongly disagreed, with the result that I reached Bandipur on the shores of the Wular Lake on May 22nd with nothing more suitable than one of those large umbrellas usually associated with surveyors. As a matter of fact it turned out to be invaluable and under the circumstances I could not have had anything much better, although the next time I go to this particular spot, I shall take with me my present hiding-tent camouflaged to represent a boulder as closely as possible. This I think, will simplify matters considerably, as building a hide from sods or stones is apt to waste valuable time, and, being immobile, all the resultant photos can only be taken

from the one standpoint. Of course, nothing can be more suitable than a hide constructed from the very material in the vicinity of the nest, as harmonization is often half the battle. Also a hide of a fixed shape cannot always be erected.

On this occasion I had the house-boat towed laboriously up the Madmatti as far as it could be got, and then set off along the river-bank to see what I could find in the couple of hours of daylight still remaining. Rounding a bend only a few hundred yards above the boat, I came in sight of a small patch of stones on the opposite side of the river, in the middle of which two stranded logs lay one across the other with a small heap of brushwood lodged against them. My eye at once caught the movement of a Jerdon's Little Ringed Plover (*Charadrius dubius jerdoni*) between these logs and the water's edge, and, watching it carefully through the glasses, I saw it settle down in a slight depression only a couple of yards from them. As luck would have it, this turbulent river was here broader and consequently shallower than usual, so I was able to ford it, and, on reaching the spot, I found a nest containing but one quite fresh egg, only after a good search however, as the egg so blended with the shingle amongst which it lay that unless one looked straight at it, it literally melted into its background.

With the assistance of the shikari, whom I had taken out with me, I pulled down the upper log and laid it parallel to the other one, thus making an excellent foundation for a hide to use when the bird commenced sitting. As a matter of fact next morning the egg had disappeared : why, I wonder ?

A little further up I found a Hodgson's Pied Wagtail's nest with large young ones in it. It was inside a wide cavity under the overhanging bank of the river, and would not have made a good photograph. Their nests are excessively common in May



JERDON'S LITTLE RINGED PLOVER
(*Charadrius dubius jerdoni*)



HODGSON'S PIED WAGTAIL
(*Motacilla albaoides*)



JERDON'S LITTLE RINGED-PLOVER
(*Charadrius dubius jerdoni*).

and I was certain to find other and more suitably placed ones, so I left them in peace and went on beyond the little village of Dachhgam to where there are large patches of stones and shingle on either side of the river, on which I knew from my experiences there the year before that the Jerdon's Little Ringed Plovers breed in considerable numbers. Nor was I disappointed on this occasion as I soon spotted many of them pottering about, some undoubtedly attending to young ones.

I then followed out my usual procedure; that is I walked boldly across a large patch to disturb any birds which might be sitting and then, retreating about a hundred yards, took up a convenient position screened from view by a tree-trunk and got out the glasses. Very soon I noticed a bird making its way back across the stones in short runs, halting between each little advance to spy out the land. At length it appeared to have reached its objective and to have settled down. I now set off towards the spot, never taking my eyes off it for an instant; yet when I arrived there, nothing whatever could I see beyond countless stones. The bird had slipped away of course the moment I had left the shelter of the tree, running in a series of short zigzags until it reached the river-bank, and was now whistling plaintively from the opposite side of the river whither it had betaken itself on my nearer approach. I repeated this performance a second and yet a third time, and was almost on the point of giving up the search when I discovered that I was standing within 6 feet of a nest of four eggs. At times I must have been within an ace of treading on it. It is really almost unbelievable how one can fail to pick out these eggs from their surroundings. A more striking example of protective colouration it is impossible to cite. The birds too blend extraordinarily well with the stones, and even with binoculars it is most difficult to keep them in view, except when they

are actually moving. This nest turned out to be in practically the identical spot in which I had taken a nest the previous year on the very same date, that is on the 24th May.

This time there were no convenient logs, so I impressed two villagers into my service, and in a very short time we had raised a low circle of stones 8 or 9 feet from the nest and about $2\frac{1}{2}$ ft. high, just roomy enough inside to take myself cross-legged and my camera.

Returning next morning, I was gratified to make out the bird sitting quite peacefully on the nest. I was soon inside the hide with the half-plate camera in position. Samad Shah's khaki umbrella made a perfect roof to the sangar, and when covered with a few leafy branches did not look at all terrifying. I was really very comfortable, comparatively speaking, and quite cool, the chinks between the stones providing quite good ventilation as well as the requisite peep-holes. The only difficulty was that the pole of the umbrella impeded my movements somewhat, as I had to sit with a leg on either side of it and work with it just in front of my nose.

I was engrossed placing slides and other paraphernalia in more convenient positions, when, glancing through a chink I had purposely left open as my main spy-hole, I was surprised to find that the bird was already seated on its eggs. She must have returned the very moment my minions had left the stones. I had expected a considerable wait, as we had been working around the sangar for a good half-hour, and it certainly must have looked a much more formidable structure than it did before our advent. She sat quite still and broadside on, only looking to right or left every few seconds, so I was very soon at work.

The click of the shutter had no effect on her at all, but in changing the plate-holder I inadvertently knocked it against the

umbrella pole. The sudden rap made her jump off the eggs but she only ran a couple of yards, then, seemingly thinking better of her cowardice, turned round and walked slowly back to the nest, close to which she stood for a moment, eyeing the hide with a certain amount of distrust before settling down again. She never seemed to notice the camera ; partly, I suppose because it was well back in the shadow, the walls of the sangar being about 18 inches thick ; and partly because I was using only the back components of the lens in order to get a larger image. As I was using a Zeiss Convertible lens with a between-lens shutter, only the black shutter-leaves presented themselves to her.

After two or three further exposures she entirely ignored the slight noises I was making in changing plates and re-setting the shutter. In fact the more I made, the stiller she became, which of course was all the better for me. I supposed, wrongly as it happened, that far from ignoring these sounds, as time went on she was growing more and more suspicious and so listening the more intently, and I felt certain that it would take very little indeed to make her quit the nest. Some species, many of the Thrushes for instance, obviously behave in this manner. Yet on the other hand it is patent that with many birds, suspicion only tends to make them move the more. Their heads go twisting round in every direction and they become so restless that it is almost impossible to get unmoved negatives of them.

I now bethought myself of trying to obtain a negative or two of the bird standing over the nest, and with this purpose in view I lightly tapped the umbrella post to induce her to get up. To my surprise she never moved. A hiss produced no result. I mewed like a cat : I whistled : I spoke : I shouted : I went through my entire repertoire of popular ditties in the hopes that she might turn out to hate ragtime as much as I do. All to no purpose.

She sat like a rock, evidently being quite used to subterranean noises, even of the strangest character. In despair I moved the camera and pushed out a corner of the red focussing cloth. At this she went off like a streak, with such alacrity in fact that I hardly dared to hope for her reappearance, so, instead of replacing the half-plate, I leisurely rigged up in its place a quarter-plate reflex which, I am sorry to say, I had also brought out with me. The entire batch of plates, which I had unwisely bought for this camera in Murree on my way up, turned out to be bad, and I exposed half a dozen on her in most excellent positions before I closed down operations, not one of the resultant negatives of course, turning out satisfactorily.

Incidentally she had returned just as the reflex was ready, after an absence of 10 minutes at most, and had posed most beautifully for the first exposure, standing just behind the eggs looking down admiring them. I could have gone on exposing plates all day, making as much noise as I liked. Such behaviour on the part of so wily and shy a bird is amazing, but, as I have remarked elsewhere, birds vary in temperament as enormously as do human beings, and it is quite on the cards that the next Jerdon's Little Ringed Plover on which I experiment will be too shy to put in any appearance at all. I have since had further experiences of the same sort and it is now quite clear to me that to a great extent with birds only seeing is believing. The evidence of hearing may arouse their suspicions but it is not enough, and as time goes on they pay less and less attention to the noises from the inside of the hide. It is not until they have the actual evidence of sight that suspicion turns to fear and that they can really appreciate the presence of danger. I find that after being in the hide for a time one can often talk and make as much noise as one likes, but if one accidentally, or intentionally for that matter, hits the sides of the

tent so that movement becomes apparent, the bird will instantly leave the nest.

In the dark-room, besides discovering that the quarter-plates were spoilt by damp, I was rather annoyed to find that the half-plate negatives were all badly under-exposed. As the day had been an excellent one for photography, there being a thin film of cloud just sufficient to soften the shadows somewhat, this was rather mystifying, until it dawned on me that I had completely overlooked the fact that I had been using only half the lens and had stopped down the aperture as if the complete lens had been in use. I had intended to use $1/10$ second at F16, whereas I had actually used $1/10$ at F32, thereby giving only a quarter of the exposure I had contemplated. Accordingly the next morning I returned once more to my scene of operations, only to find an empty nest. These eggs too had disappeared. I strongly suspect that the shikari was the culprit. He probably thought that I had finished with the nest. In Kashmir large numbers of Tern's eggs are taken by the villagers. In fact it is a marvel to me that the Terns manage to breed there at all. Hence I see no reason why they should not also have discovered that the Plover's eggs, too, are a great delicacy. The gentleman in question of course denied all my accusations.

On the way back to the boat for tiffin I investigated an Eastern Jackdaw's nest in a hole in a high bank just opposite the village. I seem to remember taking eggs from this very hole the year before. This time it contained 4 young ones. I tried to get a photo of the parent birds entering it, using a distant release, but they objected strongly to the bright lens of the camera and would not approach anywhere near it. In a tree close to the house-boat was a Rufous-backed Shrike's nest containing 5 eggs.

The next day, the 26th, I left the boat and moved up the river as far as Sonarwain. I was now keen on trying my luck with Common Sandpipers (*Tringa hypoleucos*), as on the islands, and to a lesser extent along the banks of this river, these birds breed most profusely. The islands to which I have referred are most numerous, and vary in size from little stony patches a few yards long to well-covered stretches up to two or even three hundred yards in length. They are clothed with a sufficiency of low brushwood and soft undergrowth. Stranded logs and driftwood are dotted along their edges, the stones of which are continually moistened by the drifting spray from the boiling waters of the torrent. To reach many of these islands is an arduous and somewhat hair-raising task, as one would have a pretty rough time of it, should one get swept off one's feet. We used to link arms and work our way across in a string of three or four. We could then help one another over the more difficult stretches. The roar and swirl of the water used to half hypnotize me, and at times I really and truly felt it quite an effort to concentrate my mind on the task of standing up against the buffeting of the powerful current.

To show to what an extent the Sandpipers patronize these islands, I remember that in the previous year on May 26th on one small island only about 40 or 50 yards long, we found four nests, and during a morning spent in going from one island to another, we found so many that we did not trouble to keep count of them. As far as I recollect the majority of these nests were above Sonarwain, and on this occasion I only found one with eggs below that place. There were plenty of birds about however, and I noticed a good many scratches. This nest could not have been in a better situation for my purpose, so after its discovery I did not take so much trouble in looking for others.



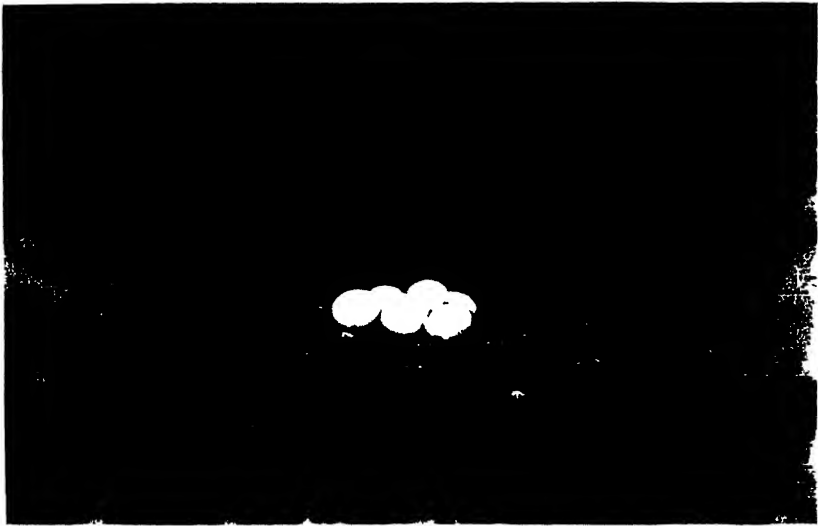
COMMON SANDPIPER
(*Tringa hypoleucos*)



HUDSON'S FIELD WREN
(*Mniotilta hydromela*)



HUDSON'S KILL RINGED PLOVER
(*Charadrius dominicensis*)



INDIAN PIED KINGFISHER
(*Ceryle rudis leucomelanura*)



KASHMIR ROLLER
(*Coracias garulla semenowi*).

which probably accounts, of course, for their seeming scarcity as compared with the previous year. As before we built a small circle of stones, but this time only 6 ft. away from the nest, and left it till the following day for the bird to get used to it.

Continuing up-stream, I came across two nests of the Kashmir Roller (*Coracias garulla semenowi*) containing fresh eggs; one three, the other four. These were both in cavities in the river-bank, and in one the eggs could be plainly seen without enlarging the entrance, as it was merely a large chamber about a foot deep and 9 inches wide with a slightly-narrowed doorway. The eggs lay on the bare sand, amongst which I noticed many small particles of the hard parts of those large flying beetles.

As I expected, Hodgson's Pied Wagtails proved very common, and I remarked no fewer than four nests before tiffin, two with eggs and two with young. I completely failed as regards Indian Pied Kingfishers (*Ceryle rudis leucomelanura*). They were numerous along the lower reaches of the river, and on this very day the year before I found three nests with fresh eggs; two of them with five, the remaining one with six. As I badly wanted a half-plate photo of a nest of this bird, I was rather disappointed not to be able to repeat the performance this time, especially as I also wanted to see whether fish bones are always made use of, as the eggs in the one and only nest I have ever opened up, were on quite a thick layer of small bones, which by the way are plainly visible in the photograph. A coolie brought me one of these birds which he had actually caught in its tunnel, which however contained no eggs. When I took it from him it snapped at my hand, so to test its strength I let it nip one of my fingers. I very quickly regretted my action, as the edges of its bill were decidedly sharp, and it hung on so firmly that, had I attempted to slide my finger out without first prizing open its mandibles, it

would certainly have cut through the skin. As it was, the flesh felt bruised for some time afterwards. Incidentally it made no attempt to transfix me with the sharp point of its dagger-like bill, which I would have thought would have been a much more suitable means of attack for such a bird. At the bridge at Sonarwain I met with the little Plumbeous Redstart. From here onwards they are quite common along with their near relative, the White-capped Redstart. Below this point I have never seen either of these pretty little birds.

On this day I got one very interesting photograph of two young Jerdon's Little Ringed Plovers. I was walking over a large patch of stones, across the middle of which there flowed a tiny stream. Hearing a very agitated Plover about 50 yards off on the opposite side of the beck, I looked around to see what the trouble could be, just in time to see two baby Plovers struggling through the water. They gained the other side and started off to where their mamma was still plaintively calling to them, but as soon as I approached they hid behind a stone little larger than themselves. The whole time I was operating upon them they never moved a muscle, but as soon as I turned my back to go my way, they scrambled off towards their perturbed parent.

After tiffin I built a rough hide close to an Eastern Grey Wagtail's (*Motacilla cinerea caspica*) nest in the roots of a bush on a small island just above the bridge, and from this I exposed the entire contents of another box of quarter-plates. These, incidentally, were as bad as the others, so after this I had to give up all idea of using the reflex. The bird was inordinately tame, and after I had made a couple of exposures, I demolished the greater part of the hide and sat almost in full view of her. She continued to sit quite peacefully for a number of exposures, but when I completed the demolition process, she seemed to think

that I had carried things a bit too far, and, leisurely walking off the eggs, refused absolutely to pose any longer.

The following morning I went down to try conclusions with the Sandpiper. The umbrella was fitted on top of my sangar as before, and well covered with leaves, branches, and grass, and I was soon prepared for the arrival of my victim. I had only about quarter of an hour to wait, but soon realized that here was a very different personage from the Little Ringed Plover. Never still for an instant, she was possessed of the most acute hearing, and glanced to right, left, or behind her at the slightest sound, continually bobbing her head as if suffering from a severe attack of the hiccoughs. I began to despair of getting good negatives, as I wanted to give exposures of at least half a second. However, she seemed to quieten down a little after some ten minutes, so I determined to press the release immediately after one of her habitual hiccoughs and trust to luck. She seemed to me to be off her nest almost before the shutter had opened, but as a matter of fact this turned out to be the best negative of all. Although she had left so abruptly, I could see her standing at the water's edge only about 3 yards off, evidently thinking things over, and, almost before I had time to change the plate, she was on the way back.

I now made a horrible discovery. A piece of black cloth, draped across the window of the sangar just below the level of the lens, had fallen outwards, so she was certain to see my hand the moment I attempted to reset the shutter. However, I had to risk it, and it would be interesting to see what she would do. She was now at the nest again, but away she went the moment my fingers appeared by the lens. Nevertheless, within ten minutes she was back at her post once more, but this time facing the spot whence the terrifying apparition had emerged. The noise

of the shutter alarmed her, but she remained sitting until my hand once more appeared on the scene. This time it was over 20 minutes before she dared to come back, and after a third exposure and its attendant reappearance of my hand, she gave way to her fear and refused to come anywhere near.

I have often wondered what her thoughts were when the top of what I presume she took for a more or less inoffensive heap of brushwood and stones, probably harbouring a snake at most, suddenly heaved up and gave forth that much-feared and clumsy animal, a human being; for, when I lifted the umbrella and stepped out from my cramped quarters, she was standing on a stone in the water about 15 yards away. Four days later, when I again passed the spot, I was very gratified to see her still sitting on her eggs beside a tumbled-down hide.

I moved my tent next day, May 27th, further up-stream, to where the hills close in on either side and the river is narrowed down to a boiling torrent sweeping round and over high boulders, whose ledges and clefts provide perfect situations for nests of the Himalayan Whistling-Thrush and the Brown Dipper. Plumbeous Redstarts and White-capped Redstarts are here commoner than ever. Hodgson's Pied Wagtail does not appear to come up so far, but the Grey Wagtail is plentiful. These latter are rather early breeders, and at the end of May, I have failed to obtain fresh eggs. I discovered one soiled and three perfectly neat and clean nests of the Whistling-Thrush, but was unable to find one with eggs, and as regards the Brown Dipper I was even less successful, as but one decidedly ancient nest was all my search could reveal.

My one and only discovery here was a nest of the Plumbeous Redstart with four well-incubated eggs in it. It was in deep shadow and in rather an awkward position, being in the main fork

of a willow and about 6 feet off the ground. A bank rose abruptly fairly close to it so I decided to test the outcome of a brain-wave that had occurred to me after the unfortunate experience with the Sandpiper. Fortunately I did not expect to produce good photographs, although as it happened one did turn out fairly passable.

I possess two half-plate field cameras; one with an ordinary Thornton-Pickard shutter, my favourite one; the other with a Koilos shutter, and I found that I could screw in the lens and shutter of the latter camera on the inner side of the panel, and so inside the camera, by cutting a small hole in the bellows, through which I pushed the antinous release, packing black tape round it to make certain that no light could get through to fog the plate. In this way, after focussing, I had only to fold back the screen to see exactly what I was doing in the way of setting the shutter and the lens aperture, as I had the whole 'works' facing me. After the first exposure on the Sandpiper I had wanted to alter the exposure, but was unable to do so with accuracy as I could not possibly see the dial. Another advantage of this arrangement was that there was nothing bright and terrifying to startle the bird, there being merely a small black circle, the shutter, that is when using one half of the lens only, in the centre of a plain wood panel.

The experiment began at 9 o'clock on the morning of the 28th, with the lens and shutter in their ordinary positions. Before I had been five minutes in the hide, the female appeared on the edge of the nest. She noticed the lens immediately and flew down to a boulder in mid-stream before I had time to press the release, which as it happened I had no intention of doing, as I think it tends to allay whatever suspicions the bird may have if one waits for a space and lets it settle down. Until 11.30 o'clock

she kept up a continual plaintive wail, occasionally flying up into the tree and approaching to within a foot or so of the nest, but never actually daring to come out into full view of the camera. During all this time I only saw the male once. For about ten minutes he added his voice to the lament, and then flew unconcernedly up-stream again.

I now changed the lens and shutter round, screwing them on inside the bellows as I have described, and, lo and behold, the next time the bird flew up into the tree, she straightway hopped on to the nest and settled down on the eggs. Either the click or the movement of the shutter startled her and she went off again, and could not pick up the courage to come to the nest for another half hour. It took me a whole hour to get off three exposures on her, and altogether I was sitting in the hide for $3\frac{1}{2}$ hours. Still I am quite certain that I could have sat there the whole day with the 'works' in their ordinary position, and would then have been compelled to give up in the evening without having exposed a single plate.

Thus the experiment was really quite a success. It made all the difference to me inside the hide, as I could see perfectly all I needed, and could alter the exposure or other gadgets without ever moving the camera and risking giving my presence away, while the absence of anything startling facing the nest undoubtedly made a great difference to the bird's behaviour. In fact, I think had I started off with the shutter reversed, I would have been able to get as many negatives as I wanted, as those first $2\frac{1}{2}$ hours of anxiety must have made her very jumpy.

The moral of this tale is not that I advocate the general use of a half-plate camera with a before-lens shutter, but that birds undoubtedly fear the bright glass eye staring at them, consequently one should shade it very carefully. Secondly, any labour

or trouble-saving device is a great asset in the hide where comfort and convenience count for a great deal. Lastly, one may have a chance of obtaining a good photograph when only the half-plate camera is to hand when such an arrangement would of course prove most useful.

In the afternoon, feeling a bit limp after my morning's work on the Redstart, I lazed outside the tent writing up my diary. The tree, under which I was seated, was frequently visited by two or three Himalayan Black Bulbuls (*Microscelis psaroides psaroides*), and after an hour or so of their raucous voices I had serious thoughts of shouting for my gun. I have met with few more noisy and less musical birds than these, and with their untidy plumage they are veritable street-arabs amongst birds. I could occasionally hear the hoopoe-like voice of the Himalayan Cuckoo higher up the forest-clad hillside, and once or twice the familiar Asiatic Cuckoo reminded me of its presence. In the evening one of the latter actually came down to my camp for a few minutes. I had two Himalayan Jungle-Crows' nests within a couple of hundred yards of me, one of which was not more than 15 or 20 feet up in a slender pine, and I was quite pleased to see these black bullies and arrant egg-stealers being thoroughly mobbed by a pair of ferocious Himalayan Black Drongos, which, judging by their aggressiveness, most probably had a nest in the vicinity though I was unable to spot it.

A European Hoopoe was frequently visiting the patch of grass on which my tent was pitched, and flying off with the grubs he extracted therefrom to a wall about a hundred yards away, over which he disappeared at exactly the same spot on every occasion. I thought that there must be a nest in the base of the wall on the far side, but it turned out to be in a hollow trunk just beyond. There was a small entrance hole about 2 feet from the ground

facing the wall, and from this were emitted loud squeaks at each visit of the parent bird. That evening I built a small sangar only 4 feet from the tree, using the stones of the wall for this purpose.

The following morning when I awoke it was raining hard, and so dark that it was obvious that photography was out of the question. However, I had made arrangements to set off for the boat at noon and did not want to alter my plans, as I had already fixed up everything for a lengthy trip into the Lolab, which, as it happened, I never completed as I went down with a bad attack of malaria. I therefore had myself roofed into the hide, setting up the camera in case it cleared, but mainly with the idea of noting the behaviour of the birds.

The proximity of the hide and the round black patch of the shutter impressed the Hoopoe so little that he arrived the moment I was left alone. He did not enter the nest, the food being taken from him at the entrance, but whether by a young one or the female I could not ascertain. However, after his third or fourth visit a fully-fledged young one poked its head out of the hole and for about half a minute surveyed the outer world. Then, a few moments later a bird flew out; too quickly for me to be able to see whether it was an adult or one of the young ones, but I think it must have been the female, as a few minutes later both adult birds appeared on the scene and one of them immediately went in, the other flying away again after first transferring a grub to the birds inside. After this the old procedure was re-started. It looked, therefore, as if the male did all the grub-hunting, while the female superintended the feeding of the youngsters within. This is not always the case, however, as last April while on parade I noticed a nest high up in a crevice in a banyan tree. On this occasion both birds were equally

industrious in hunting for their offsprings' food, and in 20 minutes between them they visited the nest no less than twenty-one times, after which they rested from their labours. There was no transferring of food from one adult to the other, but both entered the nest irrespective of the other's whereabouts. Judging from their antics, their chief prey appeared to be small grey grasshoppers which abounded on the sandy parade ground.

As the weather had not cleared by 10 o'clock, and it was, if anything, darker and still drizzling, I decided to pack up, but exposed two plates giving as long an exposure as the movements of the birds would permit, but as I expected they were so under-exposed as to be practically useless, the $\frac{1}{4}$ second at F12, the largest stop I could use with half the lens, resulting in almost blank negatives. Incidentally the bird took not the slightest notice of the snap of the shutter.

On my way back to the boat, I saw a Tickell's Thrush carrying material to a nest it was building in a willow close to the path. It was obtaining its material from an old nest in another tree about 50 yards away. I also noticed an Indian Oriole building almost at the very top of an enormous chenar and a Rufous-backed Shrike sitting on a nest on a branch just overhanging the path.

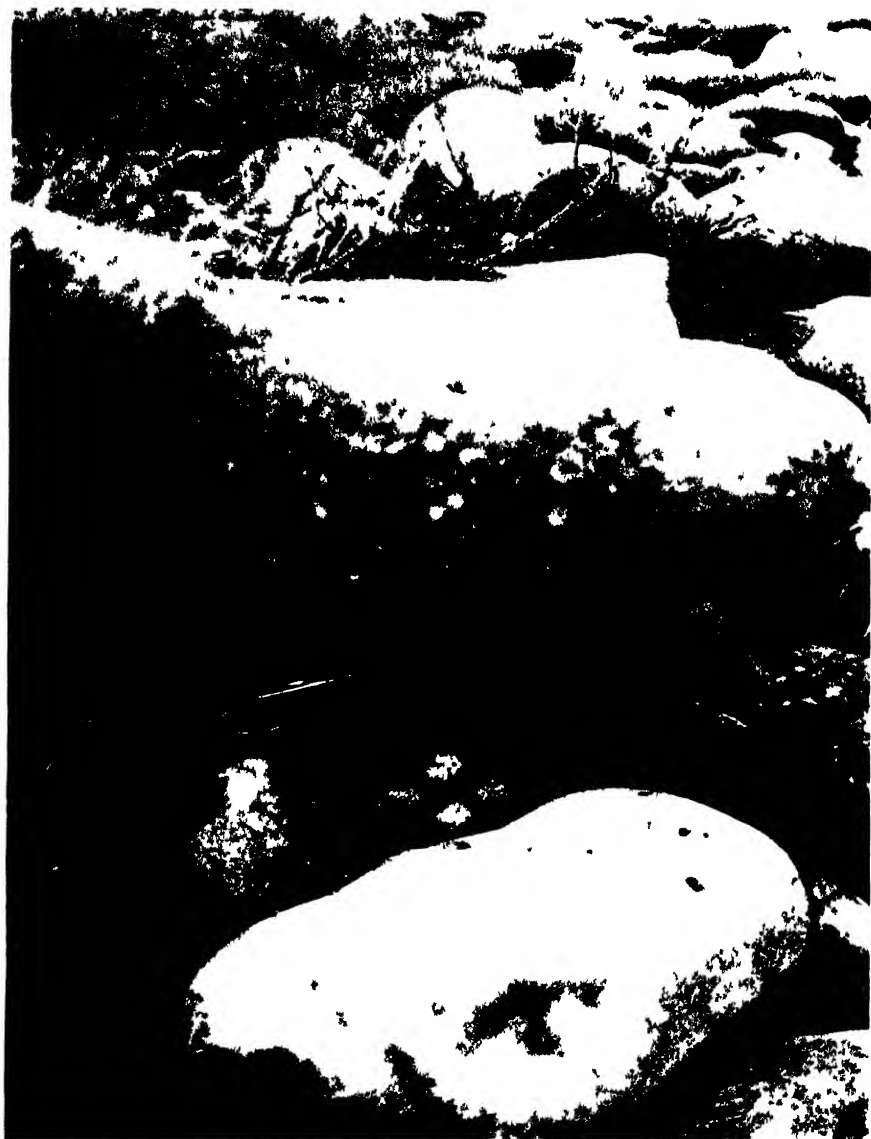
Thus ended my first experiments in the use of natural hides. I cannot say the camera results were very satisfactory, but I certainly learnt a lot and in consequence have since been more successful. Of the many lessons I imbibed, two stand out well above the others. The first, that far longer exposures are required than one would ever suspect, so, in order to cut them down as much as possible, one should use the largest stop one can afford to: the other, that provided one is careful and in the case of almost any sitting bird, one *can* give exposures of

considerable length without undue risk of getting a moved image, $1/3$ to $1/2$ second even in the case of a startled bird, as it seems to take quite an appreciable time before its brain can communicate with its muscles so to speak and put it in motion.

In bird-photography, when the subject is close to the camera, one has to remember that the long bellows extension makes an appreciable difference in the length of the exposure required. In talking of the proximity of the subject to be photographed, it also behoves me to mention here that one can make a great mistake by trying to approach too close up. There are distinct limits, which are not only bounded by the fact that the nearer the hide the shyer the subject is likely to be. It is far better to get a small but entirely sharp image which can be enlarged subsequently to almost any degree, than to get a large image half of which will probably be out of focus owing to the fact that to stop down the lens to get the necessary depth of focus will unduly prolong the exposure beyond the bird's capacity for stillness.

Another point of considerable importance is that most birds undoubtedly fear the bright lens, probably mistaking it for the eye of some outlandish animal, so, as more often than not it cannot be done away with by having the shutter in front of it, it should certainly be shaded as much as possible.

Lastly, it is obvious that birds become used to noises from inside the hide very rapidly, so, once the bird has shown itself to be used to the noise of the shutter, one need not be too fearful of the sounds one is bound to make at times when changing plates and so forth. This fact really should be quite patent to anyone. Trees and bushes are for ever creaking and rustling in a breeze, and if every bird left its nest in a panic at the slightest noise in its vicinity, it would indeed have a nerve-racking time of it.



COMMON SANDPIPER (*Tringa hypoleucos*)



PHEASANT-TAILED JACANA (*Hydrophasianus chirurgus*).

CHAPTER XI

A BIRD-PHOTOGRAPHER'S NEEDS

The hiding-tent, to which I have at times been alluding, is not the one which I mentioned as ordered from Cawnpore, as the makers thereof evidently considered that they knew more about my requirements than I did myself and sent a thing altogether unsuited to the work in hand. I therefore drew up plans for another in Secunderabad, whither I was transferred in 1922, and having enlisted the services of a local *durzi* and later of a carpenter, we evolved between us the contraption which has since proved most useful and quite up to everything so far required of it.

It is made of good quality khaki drill, double along all seams and edges, and consists of a centre-piece 3 ft. 3 ins. by 2 ft. 8 ins., which forms the roof, on to which are stitched end-pieces 3 ft. 6 ins. deep and of course 2 ft. 8 ins. wide, and two side-pieces 3 ft. 3 ins. long at the top to fit the roof and 3 ft. 6 ins. deep to correspond with the end-pieces. These side-pieces widen to 5 ft. along the bottom edge. When spread out flat, the tent therefore forms something like a maltese cross. The reason why I made the walls in the above manner is that it allows one a certain amount of latitude in the ultimate shape of the erected tent. Along each of the sides of these four flaps or walls are five eyelets so that all or any pair of the edges may be laced up as required. Horizontally on the outer surface of each flap are stretched three khaki ropes caught at intervals to the drill so that loops are formed, and across the top ropes are likewise sewn. Into these loops, grass, branches, ferns, etc., can very quickly be rammed; thus the tent takes but a short time to camouflage.

The frame to hold this up is of wood, and consists of but four separate pieces as follows :—two plain end-pieces, in length the width of the roof, and two side-pieces corresponding with the length of the roof and on which the four legs are hinged in such a manner that when folded each pair lies close together and along its respective side-piece. Unfolded they are kept in position by hooks, the sort of thing one uses in this country to keep windows and shutters open, and also by four 5-inch pins, which are inserted in turn through eyelets in the four corners of the drill roof, then through corresponding holes in the wooden side-pieces and end-pieces of the frame, and finally down the middle of the legs themselves. These pins, therefore, not only help to fix the legs, but also clamp the separate pieces of the frame together and keep the roof taut and in position, so it will be seen that the whole affair can be erected in a few moments.

This frame is made of teak but any other strong wood will of course do, as teak is certainly rather brittle. Still the complete tent only weighs 15 lbs., and rolls up into a cylindrical bundle roughly 4 ft. long and 6 ins. thick. It could probably be made to weigh considerably less, as both the side and end-pieces are obviously stouter than is necessary, being $1\frac{3}{4}$ ins. wide and 1 in. thick. I prefer to have it really strong, however, as one does not want to risk breakage at a critical moment, and often, owing to the slope or unevenness of the ground, considerable strain is imposed upon it.

For spy-holes one can either peep through the corners or else cut slits where required in the drill. After a few tears have been made, one will find that the practice of apparently ruining the tent may be stopped, as only a very limited number are required in any one wall. For the lens slits are likewise cut, just long enough to stretch over the lens-tube, over which is fitted a rubber ring to

prevent the flap slipping back at an awkward moment and covering the lens.

It will be seen that when at work in the tent one is seated in an oblong box 3 ft. 6 ins. high, 3 ft. 3 ins. long, and 2 ft. 8 ins. wide. This may not appear altogether palatial, but it is ample for me with a half-plate camera, a reflex, and their necessary impedimenta, and since starting to use it I have never had occasion to endure the agonies one reads of through sitting in a cramped position for hours on end, for the simple reason that I have found movement quite easy in that amount of space. However, the actual details of size rest with the person who is to use the tent, and he will of course adapt it to his own bulk. A possible improvement is that it might be made sun-proof. Now it certainly is not so, and one has often to endure a topi in consequence, and as topis are bulky this is a nuisance, since one is liable with such an ungainly thing on one's head to bump it into the roof or sides of the tent and so upset the equilibrium of the bird one is attempting to photograph.

I find it most advisable to erect the tent the evening before its intended use. So far it has never been removed in my absence but this is not very surprising, as, when well camouflaged with the materials which surround it, it is usually very inconspicuous. At the spot whence the lens is to protrude I pin a circular piece of black paper, so that the bird will not be startled by the sudden appearance of the huge shining lens. Erected in this way shortly before sundown, the birds will rapidly become accustomed to the structure during the hours of darkness, and next day one will not only be saved a long wait while the birds get over the disturbance which has been caused around their home, but one will also find that instead of a nervous forever-moving subject one has a placid unsuspecting bird which from the first will hardly take any notice

whatsoever of the many slight noises which one cannot avoid making within the hide.

It might be as well to mention here a point which I think I have not so far brought up. Always have a helper to see one into the hide. Firstly, he can adjust the outside after one has reported all correct within ; that is he can finally settle the lens to see that no grass and leaves will eventually droop over it as they wither and die ; and secondly, what is most important, when he takes his departure the birds will think the coast is clear. They are perfectly aware of one's presence if one arrives alone and disappears from view within the hide, but to distinguish between the arrival of two persons and the departure of only one appears to be beyond their comprehension.

As I have described the hide, it would not be out of place to mention the cameras I use. Undoubtedly where one's means limit one to a single camera, a half-plate field camera is indispensable. For all-round general work this type and size is without doubt the best, and is what I think most bird-photographers use. My half-plate is an Ensign Triple Victo with a battery of Zeiss and Ross lenses of different focal lengths which I have picked up at odd times and which give me a choice of varying the size of the picture without necessarily having to find a new position for the camera, an undertaking which is often impossible, or virtually so, in a restricted place or with the camera lashed in a tree.

I have in addition a Zeiss Tele-Negative attachment for use with a Protar, but so far it has proved itself quite an unnecessary possession. Still, if it comes in useful even once, I shall consider it has justified its existence.

Actually but one good anastigmatic lens, preferably of the combinable type, is necessary, though to possess two is more

convenient ; namely, one of long focus for use in the hide as this enables one to get a sufficiently large image without having to work uncomfortably close up, and the other of short focus, say $6\frac{1}{2}$ or $7\frac{1}{2}$ ins. at the outside, for photographing nests and eggs. The long focus lens should, if one can run to the expense, work at a very large aperture, that is in the neighbourhood of F_3 , so that short exposures may, where necessary, be given in a bad light. As a matter of fact more often than not one will be using apertures of F_8 and smaller, but there are occasionally times when the largest aperture in existence is hardly large enough. Only lately I expended fourteen plates on a bird standing near its nest in an earthy bank in a thick wood, yet with a lens working at $F_{5.4}$ and using exposures of $\frac{1}{3}$ second one and all were under-exposed, even though the sun was shining brightly directly overhead, and within a few feet of the nest was a large glaring patch of sunlight. A couple of attempts at short time exposures of about one second were even on the under-exposed side, and these latter negatives turned out to be of no use as the image of the bird was in both cases blurred through movement. The ordinary photographer, used to taking landscapes, etc., will be surprised at the comparatively long exposures required to avoid under-exposure in the photography of birds and their nests. Hence the advisability of having in reserve the lens with a very wide stop.

I quite realize that to say comparatively long exposures are required is very vague. It is, however, impossible to my mind to lay down any really accurate fixed scale of exposures. There are so many factors to take into consideration ; the position of the nest, the colour of its immediate surroundings, whether in the open or in the shade of trees, and so forth. I have always found, too, that both shutters and lenses vary so much in the amount of light they pass through them or in other ways, for instance the speeds

marked on a shutter are by no means always accurate, that one has to experiment with every new camera or lens one purchases to find out the exposures which suit it best. One thing I can say and that is work on the assumption that it is far far better to give too long an exposure than to err on the short side, as there is very naturally a tendency to cut exposure, especially when photographing birds on or at their nests. Also one must remember that more often than not in bird-photography it is the detail in the deepest shadow which we wish to bring out.

In the tenth edition of the *Dictionary of Photography* there are some very useful remarks on Nature Photography, so I will take the liberty of giving an extract from the notes on exposure given therein. These, of course, are for the British Isles, but will do equally well as a guide for exposure in India where the actinic value of the light is not so great as the glare leads one to imagine.

‘The following notes on exposure refer to “Special Rapid” plates, with an average light without the sun shining, but not dull :—

Birds at rest on their nest in an open meadow—stop lens down to F32 : . . . and give an exposure of 3 seconds.

Birds walking up to their nests—F8, exposure about 1/16 second.

Birds feeding, such as tits and finches—F6·8, exposure 1/25 second, or even 1/15. Not quicker than 1/25.

Large birds flying, such as gulls—1/300 second.

Don’t try to give rapid exposures in a dense wood—it is impossible.’

One cannot expect every negative to be a good one, and one will be well repaid if, in risking short time exposures of even $\frac{1}{2}$ second on a bird feeding its young ones, one gets two really good photographs out of a whole box of a dozen plates. Had one used

a large stop and $1/25$ second perhaps the majority of the negatives would have shown no movement, but on the other hand not one of these negatives would show anything like the detail to be found on the two obtained by means of the long exposure and smaller stop, and at the expense of a greater number of absolute failures.

In photographing nests and eggs and all subjects where time is no object so to speak, I find the following is a most excellent plan. Focus the subject as finely as possible with the diaphragm wide open. Then still looking through the focussing-screen, stop down gradually until one can only just make out the main details of the image. One can then give a fixed exposure at all times and in all lights. In my own case I generally use up three plates, giving 2 seconds, 5 seconds, and for the third I vary the exposure between 10 and 30 seconds, taking into account any special factors contained in the subject.

With a bird seated on its nest the stop and exposure problem is not always so acute, as many sitting birds remain remarkably still, and I have at times given exposures of the best part of a minute. A Nilgiri Quaker-Babbler (*Alcippe poiocephala poiocephala*) obligingly sat still for such a period, when I was once obliged to stop down the lens, a Ross Telecentric, as far as it would go to get the necessary depth of focus, as the only possible position for camera and tent was so close that the limited extension of the reflex I was using was insufficient to bring even the furthest portion of the bird into sharp focus. However, by slightly unscrewing the front combination of the lens and stopping down as I have said, I succeeded in getting quite a passable negative. The nest was in a particularly dense patch of forest, and as it turned out double this exposure would have produced a better result. Very often the click of the shutter has the most convenient effect of making the bird sit as still as a rock, while it listens with

strained attention for further repetitions of the unknown sound. I have found this to be the case particularly with the Thrushes. Everyone knows the look of annoyance and outraged demeanour assumed by the common Song Thrush at home when one presumes to approach it on its nest. However, I have found that even with a nervous bird, which is continually shifting its head or which jumps up seemingly the moment one presses the release, exposures of up to about $\frac{1}{2}$ second do not so very often show movement, the bird apparently not being able to get on the move after being startled by the opening of the shutter, until after the exposure is finished. Of course, one needs to judge the correct moment to take the photograph so as to get the bird during a period of stillness, and this is largely a matter of practice.

Another necessary adjunct in the lens is a surplus of covering power, and sharpness to the very edges of the surface it does cover; that is to say in a half-plate camera a lens which covers a whole plate without showing any loss of definition round the edges should at least be used. Especially does this necessity arise in taking photographs to show off the contents of nests, as with the ordinary tripod, and even with a tilting-table, the camera cannot always be depressed as a whole to a sufficiently deep angle, and the lens has therefore to be still further tilted with the result that its axis no longer passes through the centre of the plate. To tilt the nest instead of the camera is very bad policy indeed and only results in an unnatural-looking photograph. Besides, one's reproductions should depict the subject exactly as it was constructed and used by the owners.

Most field cameras have a swing-back, but unfortunately not all of them swing backwards sufficiently far, that is well beyond an angle of 90° with the camera base. However, as a rule this defect can very easily be remedied by removing the locking devices and



COMMON INDIAN HOUSE-CROW (*Corvus*)



PLUMBEOUS REDSTART (*Rhyacornis fuliginosa fuliginosa*)

the noise made with an ordinary camera in removing the plate, re-focussing, and replacing the plate, renders such a course out of the question, and all one can do is to wait for it to condescend to alight on the exact spot on which one has previously focussed.

The lens I am now using in this reflex is a 12-inch F3.5 Dallmeyer Dallon. The main reason why I invested in the 5×4 camera is that it naturally racks out further than does the quarter-plate of the same make. The obvious course when buying a reflex is to choose one with a long extension, but I purchased mine in India when reflexes were both hard to get and exorbitantly expensive, so took the first I could get. There are now many good cameras of this type on the market, and some of them are probably more suitable for bird-work than mine, which incidentally is a Graflex with the performance of which, however, I am perfectly satisfied.

When using the reflex in the hide, I always remove the focussing hood for convenience's sake, as the restricted height of the tent makes it very awkward to work with it on, and the tent itself is quite dark enough to render the image on the screen easily visible. It is quite safe to do this, and even when using the mirror as the shutter with the focal plane shutter at open, I have never had a plate spoiled by extraneous light entering through the screen and passing round the edges of the mirror. Using the mirror in this way gives one a fairly silent and comparatively long instantaneous exposure, probably of about $\frac{1}{2}$ or $\frac{1}{3}$ second. If the shutter is put out of action and at open, and one regulates the raising and lowering of the mirror with the right hand, while holding down the release with the left, one obtains a means of giving an absolutely silent time exposure of any duration, and this is of considerable use at times when working on a sitting bird which shows signs of sleepiness or is otherwise naturally still.

When taking the smaller birds, I invariably use quarter-plates in wooden carriers in the plate holders of both these cameras, since, as the image is small and generally only a comparatively small area is required from which the finished enlargement will be made, it is only a needless expense to use the larger plate. I have already mentioned elsewhere why it is better to aim at a small image rather than a large image from which direct prints can be made, but this is such an important point that no harm will be done by laying further stress on the subject.

To place the hiding tent as close up as the ground will allow may be doubly wrong in my opinion. In the first place a nervous bird may strongly object to a strange edifice towering over its nest at most uncomfortably close range. Secondly a large image entails most accurate focussing, and, if owing to bad lighting a large stop has had to be used, it is more than likely that owing to the restricted field of focus all portions of the bird will not be in perfect focus. In fact, should the bird be sitting head on, to put the head in focus may mean that the tail will be very much out of it. Now such a negative could never be enlarged. With the camera placed further away, focussing will be facilitated, as the image will be smaller and consequently the depth of the field of focus will probably embrace all portions of the subject. Such an image will therefore be sharp in its entirety and the photographer will be enabled to make from the negative enlargements of any degree to suit his various purposes.

As regards the best plates for use in bird-photography I will not say much, as most bird-photographers have their own particular fads about them, but I must say that the ordinary special rapid types by any of the well-known makers take a lot of beating in this country. Of course orthochromatic plates give a better rendering of the true grading of the colours of the subject,

and should be used wherever possible. Rapid plates such as the Imperial Non-Filter or Wellington Anti-Screen also have their uses. Recently I have taken to the Ilford Iso-Zenith plate wherever I have anticipated the necessity of high speed, and have found it most excellent. Its H and D speed number is 700, so one can naturally cut down exposures considerably with it. The Hoopoe photo was taken at $1/40$ second at F8 on one of these plates, when the sun was not shining directly either on the bird or its immediate surroundings. The Southern Grey-Tit is also an effort on one of these plates and was taken at $1/20$ second at F8 on a dull day. The only disadvantage is that these very fast plates do not keep for long, and once the tin in which they are sealed has been opened, it is advisable to use them up quickly.

An enlarger, by the way, is a most useful possession, and one which I consider the bird-photographer cannot well do without. I, for one, know that many of my earlier photographs would be infinitely better enlarged than they are at normal size, but one is very chary of sending hard-earned glass negatives through the post. To do one's own enlarging will eventually turn out an economy too, and the initial expense need not be great. The half-plate camera, with the lens with which the negatives were originally taken, again comes in, and can be used with daylight as the illuminant by having a hole cut in the dark-room window or door with a reflector behind it. Over the hole the camera is fitted closely so that no light can enter the room other than that which passes through the negative and lens, while the bromide paper on which the enlargement is to be made is pinned on to an easel placed in front of the lens on a table or other convenient support.

If one is lucky enough to have electric light, it is a very simple matter to construct a lamp-house to fit on to the back of the

camera. With but little trouble I have successfully made one out of a teak double plate holder, an old cylindrical film-pack developing tank and a piece of ground glass. In this I use an opalescent 100 watt. gas-filled lamp. With this equipment I find that exposures vary from about 6 seconds upwards according, of course, to the degree of enlargement and the density of the negative.

It is hardly necessary to point out that there are various makes of vertical enlargers on the market which are not only thoroughly efficient and most simple to use but also comparatively inexpensive. Nevertheless I would advise the bird-photographer to invest in a good enlarger of the normal lantern type, as the additional movements and adjustments possible are well worth the added expense. In fact to sum up: exceedingly good results may be obtained with quite ordinary equipment, but for the very best work there is no doubt that one's cameras, lenses, enlarger and other paraphernalia should be the best obtainable.

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